

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

ACCUSEARCH TECHNOLOGIES LLC,
Patent Owner.

Case No. IPR2026-00287
Patent No. 10,867,001

**PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.1 et seq**

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37 C.F.R. § 42.104(a)	3

APPENDIX LISTING OF EXHIBITS

Exhibit	Description
1001	U.S. Patent No. 10,867,001
1002	Prosecution History of U.S. Patent No. 10,867,001
1003	Declaration of Benjamin B. Bederson, Ph.D. (“Bederson-Decl.”)
1004	Curriculum Vitae of Benjamin B. Bederson, Ph.D.
1005	U.S. Patent Application Publication No. 20100145923A1 (“Wang”)
1006	U.S. Patent No. 8,880,547 (“Mills”)
1007	U.S. Patent Application Publication No. 20070168344A1 (“Brinson”)
1008	U.S. Patent Application Publication No. 20090248511A1 (“Mehta”)
1009	U.S. Patent Application Publication No. 20060059126A1 (“Naick”)
1010	U.S. Patent Application Publication No. 20020174118A1 (“Bates”)
1011	U.S. Patent No. 9,098,569 (“Bhagat”)
1012	U.S. Patent Application Publication No. 20090287676A1
1013	U.S. Patent Application Publication No. 20080091834A1 (“Norton”)
1014	U.S. Patent Application Publication No. 20160012050A1 (“Bursey”)
1015	U.S. Patent Application Publication No. 20120191531A1
1016	U.S. Patent Application Publication No. 20090292595A1
1017	U.S. Patent Application Publication No. 20110054998A1
1018	U.S. Patent No. 8,473,492
1019	U.S. Patent Application Publication No. 20070273708A1
1020	U.S. Patent Application Publication No. 20100138293A1
1021	U.S. Patent Application Publication No. 20080150901A1
1022	U.S. Patent Application Publication No. 20110246921A1
1023	U.S. Patent Application Publication No. 20080147638A1
1024	U.S. Patent Application Publication No. 20020057298A1
1025	U.S. Patent No. 7,152,064
1026	U.S. Patent No. 8,095,876
1027	U.S. Patent Application Publication No. 20080071738A1
1028	U.S. Patent No. 5,826,260
1029	U.S. Patent No. 7,200,820
1030	U.S. Patent No. 8,407,217
1031	U.S. Patent Application Publication No. 20080208819A1
1032	U.S. Patent Application Publication No. 20060253431A1
1033	U.S. Patent Application Publication No. 20030105744A1
1034	U.S. Patent No. 7,296,021
1035	U.S. Patent Application Publication No. 20030055810A1
1036	U.S. Patent Application Publication No. 20040162814A1

Exhibit	Description
1037	U.S. Patent No. 7,555,476
1038	U.S. Patent No. 7,693,833
1039	U.S. Patent No. 8,402,032
1040	U.S. Patent No. 8,938,463
1041	U.S. Patent No. 6,718,363
1042	International Application Publication No. WO2011035426A1
1043	U.S. Patent No. 6,012,053
1044	U.S. Patent Application Publication No. 20070112761A1
1045	U.S. Patent Application Publication No. 20080071739A1
1046	U.S. Patent Application Publication No. 20040177064A1
1047	U.S. Patent Application Publication No. 20090187554A1
1048	U.S. Patent No. 5,946,678
1049	U.S. Patent Application Publication No. 20060004734A1
1050	U.S. Patent Application Publication No. 20090276418A1
1051	U.S. Patent Application Publication No. 20080155411A1
1052	U.S. Patent Application Publication No. 20050021512A1
1053	U.S. Patent Application Publication No. 20050120016A1
1054	U.S. Patent Application Publication No. 20080010269A1
1055	U.S. Patent Application Publication No. 20070239662A1
1056	U.S. Patent Application Publication No. 20050177555A1
1057	U.S. Patent Application Publication No. 20080140712A1
1058	U.S. Patent Application Publication No. 20060136400A1
1059	U.S. Patent Application Publication No. 20080208835A1
1060	U.S. Patent Application Publication No. 20080155399A1
1061	U.S. Patent Application Publication No. 20170060856A1
1062	U.S. Patent Application Publication No. 20100262568A1
1063	U.S. Patent No. 5,659,732
1064	Plaintiff's Disclosure of Initial Infringement Contentions, in AccuSearch Techs. LLC v. Google LLC, 25-514-GBW (D. Del. Dec. 17, 2025)
1065	U.S. Patent Application Publication No. 2007/0100804A1
1066	Shneiderman, Designing the User Interface: Strategies for Effective Human-Computer Interaction (3d ed. 1998)
1067	U.S. Patent Application Publication No. 20080221887A1
1068	U.S. Patent Application Publication No. 20040111467A1
1069	U.S. Patent Application Publication No. 20040162814A1
1070	Declaration of Robert Osann, Jr., in AccuSearch Techs. LLC v. Google LLC, 25-514-GBW (D. Del. July 11, 2025)
1071	U.S. Patent Application Publication No. 20020156917A1

Exhibit	Description
1072	U.S. Patent Application Publication No. 20110119243A1
1073	U.S. Patent Application Publication No. 20100198821A1
1074	U.S. Patent No. 8,515,731
1075	U.S. Patent Application Publication No. 20090210404A1
1076	U.S. Patent Application Publication No. 20110035401A1
1077	U.S. Patent No. 8,165,972
1078	U.S. Patent No. 8,055,669
1079	U.S. Patent No. 6,999,959
1080	Chang, et al., “Search Engines’ Help Systems,” Fifth International Conference on Information Technology: New Generations (IEEE 2008)
1081	U.S. Patent Application Publication No. 20020194166A1 (“Fowler”)
1082	U.S. Patent Application Publication No. 20070239676A1 (“Stonehocker”)
1083	Chi, Ed H., et al. “Using information scent to model user information needs and actions and the Web,” Proceedings of the SIGCHI conference on Human factors in computing systems (2001)

MANDATORY NOTICES

A. Real Party-In-Interest

Petitioner Google LLC (“Google”) is the real party-in-interest.¹

B. Related Matters

1. United States Patent & Trademark Office

The application from which U.S. Patent No. 10,867,001 (“the ’001 patent”) issued (U.S. Patent Application No. 16/790,057) is a Continuation of U.S. Patent Application No. 16/553,900 (U.S. Patent No. 10,585,959) filed August 28, 2019, which is a Continuation of U.S. Patent Application No. 16/199,192 (U.S. Patent No. 10,437,900) filed November 25, 2018, which is a Continuation of U.S. Patent Application No. 15/383,907 (U.S. Patent No. 10,140,374) filed December 19, 2016, which is a Continuation of U.S. Patent Application No. 14/820,433 (U.S. Patent No. 9,529,920) filed August 6, 2015, which is a Continuation of U.S. Patent Application No. 13/163,614 (U.S. Patent No. 9,104,765) filed June 17, 2011.

The following applications are Continuations of U.S. Patent Application No. 16/790,057 (U.S. Patent No. 10,867,001):

¹ Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc. XXVI Holdings Inc. and Alphabet Inc. are not real parties-in-interest to this proceeding.

- U.S. Patent Application No. 17/114,305 (U.S. Patent No. 11,100,184) filed December 7, 2020;
- U.S. Patent Application No. 17/395,078 filed August 5, 2021 (*abandoned*);
- U.S. Patent Application No. 18/195,882 (U.S. Patent No. 11,971,937) filed May 10, 2023;
- U.S. Patent Application No. 18/600,949 (U.S. Patent No. 12,292,942) filed March 11, 2024;
- U.S. Patent Application No. 19/054,481 filed February 14, 2025 (*pending*).

2. United States Patent Trial and Appeal Board

Petitioner previously filed a petition for *inter partes* review of U.S. Patent No. 10,585,959, which is related the '001 patent. *See* IPR2026-00286, Paper No. 2 (March 6, 2026).

With this filing, Petitioner is contemporaneously filing petitions for *inter partes* review of U.S. Patent Nos. 11,100,184 and 11,971,937, each of which is also related the '001 patent. Those proceedings are IPR2026-00288 and IPR2026-00289.

3. U.S. District Court for the District of Delaware

The '001 patent is currently asserted in *AccuSearch Technologies LLC v. Google LLC*, Civil Action No. 1:25-cv-00514 (D. Del.).

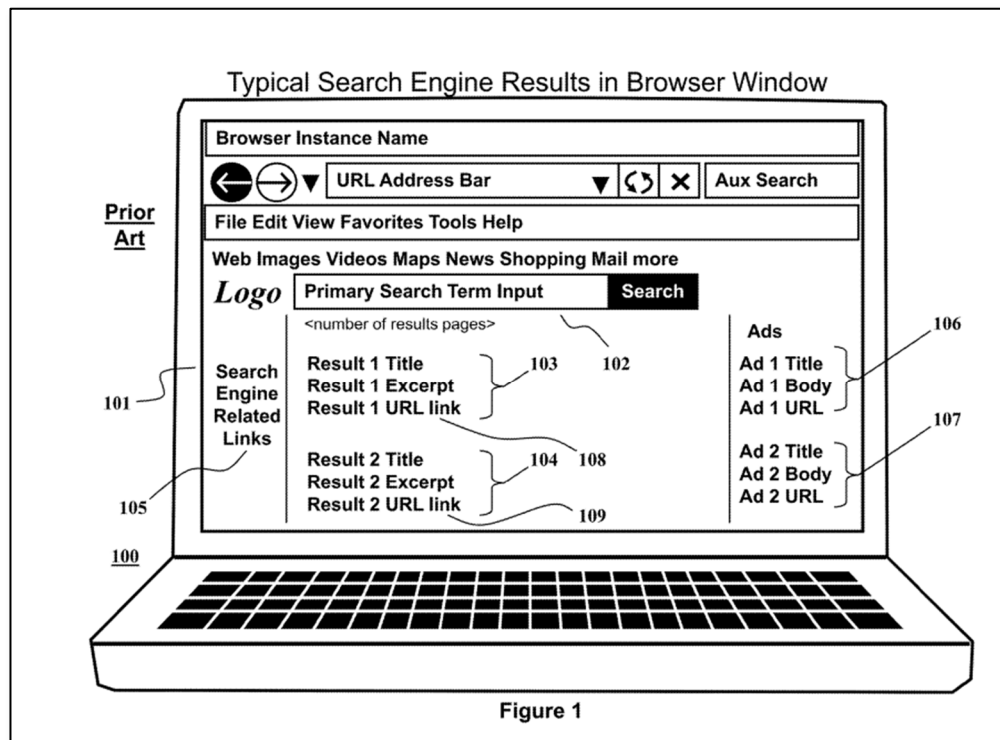
C. Counsel and Service Information - § 42.8(b)(3) and (4)

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A power of attorney is submitted with the Petition. Counsel for Petitioner consents to service of all documents via electronic mail.

I. INTRODUCTION

The '001 patent concerns annotating search-engine results. Figure 1 (below) depicts a user interface for a prior-art search-engine webpage. The interface includes a search bar for entering search terms. Executing a search identifies webpages related to those terms.



The '001 patent purports to improve this prior-art interface by annotating search results to indicate whether a webpage includes each search term. That is, if the three-word search query is, *e.g.*, "MANHATTAN CLAM CHOWDER," each returned search result is annotated to indicate whether, *e.g.*, the word "MANHATTAN" is missing or included in that webpage.

Annotating search-result listings to indicate the presence or absence of search terms was known before 2011, the earliest alleged priority date. For example, Internet search providers have long **bolded** search terms present in a search-result listing, *e.g.*, in a result’s title, URL, or summary. EX1003 (“Bederson-Decl.”), ¶¶38-42 (citing, *e.g.*, EX1025-EX1026). It was also known to annotate search-result listings to indicate an *absent* term. Bederson-Decl., ¶¶43-51. For example, the prior-art Bates reference displays color-coded bars to indicate the presence or absence of search terms in each search result. *See infra* §VI.A. Other prior-art references disclose similar annotations used for the same purpose. *See, e.g.*, EX1027-EX1028, EX1048-EX1049.

The only plausible distinction between the annotation system recited in the ’001 patent’s challenged claims and those disclosed years earlier in Bates (and others) is the limitation reciting that the annotation itself comprises “*text representing the at least one search term element that is missing*” in the search result.² Put simply, for missing search terms, the claims require the annotation to include the search term’s text itself, whereas Bates’s example uses color-coded bars, without text, to indicate missing (and present) search terms.

² Claim language italicized and bold-italic emphasis added throughout.

But ordinary artisans had already used search-term text to indicate which search terms were missing (and present) in search results. For example, the prior-art Mills and Bhagat references both indicate a search term is missing from search results by displaying the term’s text with a strikethrough (*e.g.*, “~~T~~ool” (below left); “~~a~~dventures” or “~~r~~acing” (below right)):

 Alternative Search: “Acme Rolling ~~T~~ool Organizer” ←163 1.  ACME Tool Organizer Price: \$43.00 Availability: In stock—1 to 3 weeks Rating: ★★★★★ (See Comments) 2.  ACME Tool ~~B~~ox Price: \$10.00 Availability: 1 to 2 weeks Rating: ★★★★★ (See Comments)	fast racing ~~a~~dventures (See all 1,443 results) <table> <tr><td>fast racing game</td><td>\$54.95</td></tr> <tr><td>fast racing 3D</td><td>\$64.95</td></tr> <tr><td>fast racing t-shirt</td><td>\$14.95</td></tr> </table> fast ~~r~~acing adventures (See all 180 results) <table> <tr><td>fast adventures DVD</td><td>\$14.95</td></tr> <tr><td>fast adventures survival kit</td><td>\$130.95</td></tr> <tr><td>fast adventures tent</td><td>\$87.95</td></tr> </table>	fast racing game	\$54.95	fast racing 3D	\$64.95	fast racing t-shirt	\$14.95	fast adventures DVD	\$14.95	fast adventures survival kit	\$130.95	fast adventures tent	\$87.95
fast racing game	\$54.95												
fast racing 3D	\$64.95												
fast racing t-shirt	\$14.95												
fast adventures DVD	\$14.95												
fast adventures survival kit	\$130.95												
fast adventures tent	\$87.95												
Mills (EX1006), FIG. 2 (excerpt)	Bhagat (EX1011), FIG. 2 (excerpt)												

Other text-based annotation systems were known too. Bederson-Decl., ¶¶48-51 (citing, *e.g.*, EX1012, EX1045). The challenged claims are thus merely a predictable combination of known types and uses of text-based annotations to indicate the presence or absence of a search term in a given search result (*e.g.*, as in Bhagat and Mills) with known interface configurations for displaying search results (*e.g.*, as in Bates and Wang).

II. CERTIFICATION

Google certifies that the ’001 patent is available for, and Google is not barred or estopped from requesting, *inter partes* review. 37 C.F.R. §42.104(a).

III. GROUNDS FOR UNPATENTABILITY

Google requests cancellation of claims 1-26 as follows:

Ground	Reference(s)	Claim(s)	Basis
1A	Bates-Bhagat	1-4, 7-8, 12-17, 20-21, 25-26	§103
1B	Bates-Bhagat-Naick	5-6, 18-19	
1C	Bates-Bhagat-Brinson	9, 22	
1D	Bates-Bhagat-Mehta	10-11, 23-24	
2A	Wang-Mills	1-4, 7-8, 12-17, 20-21, 25-26	
2B	Wang-Mills-Naick	5-6, 18-19	
2C	Wang-Mills-Brinson	9, 22	
2D	Wang-Mills-Mehta	10-11, 23-24	

Bates, Wang, Naick, Brinson, and Mehta are prior art under pre-AIA §102(b).

Mills and Bhagat are prior art under pre-AIA §102(e). None were cited during prosecution.

IV. THE '001 PATENT

A. Overview

The '001 patent claims priority to June 2011. The patent alleges that then-existing search engines could waste a user's time by returning webpages missing "search terms that [the user] had specified." EX1001, 1:54-2:20. The patent says it would be beneficial if users knew "in advance which [search-result] webpages contain which search term elements." EX1001, 2:35-38. "This foreknowledge...could prevent the user from wasting their time reviewing pages that are not relevant to their search." EX1001, 2:56-63.

To provide that “foreknowledge,” the patent annotates each search-result grouping “to indicate which search term elements are present in the webpage referenced by the search result.” EX1001, 4:30-35.

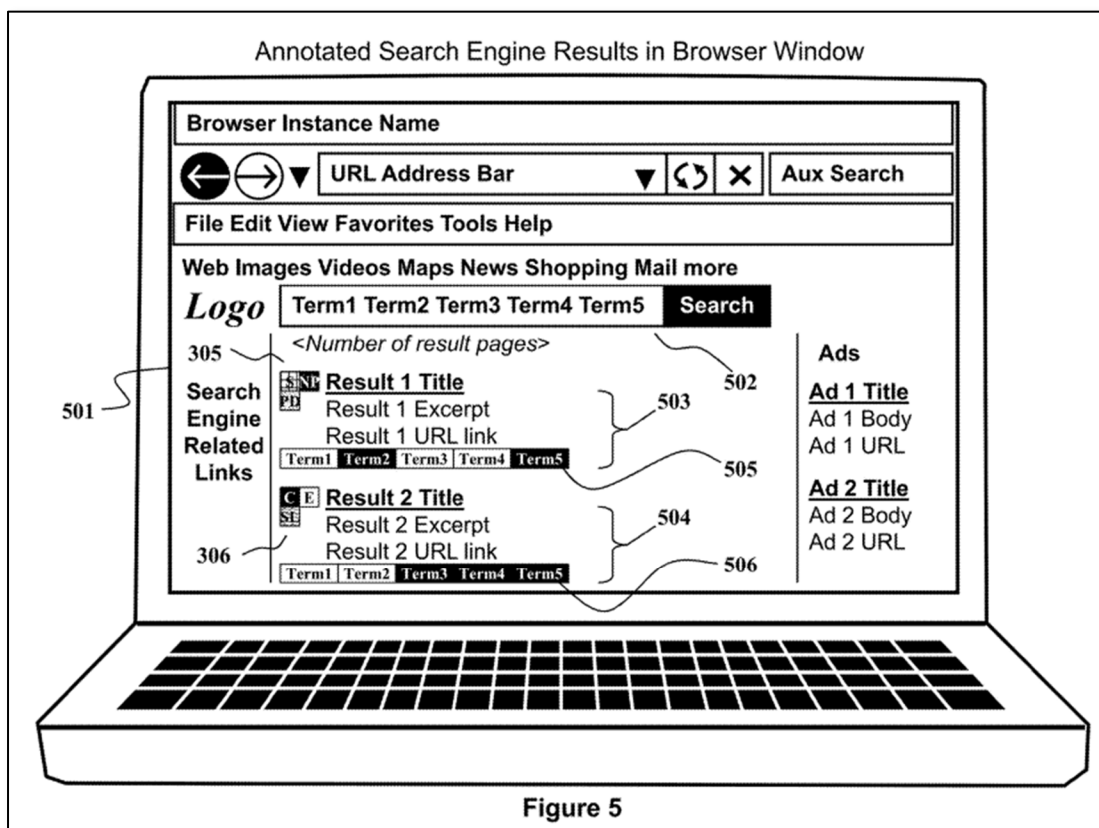


Figure 5

Above, each search-result grouping includes “annotations 505 and 506,” which “indicat[e]...which search term elements actually appear” on the respective search-result webpages. EX1001, 10:8-12. In Figure 5’s “exemplary” implementation, “present” “search term elements” are “shown as black text on a white background,” and missing terms are “shown with white text on a black background.” EX1001, 10:12-16; Bederson-Decl., ¶¶52-58.

B. Challenged Claims

The challenged claims are reproduced in Section XV. Independent claim 1 recites a method that aligns with Figure 5's embodiment. Bederson-Decl., ¶59. Independent claim 14 (system) mirrors claim 1. Each independent claim requires, *inter alia*, a search result with an “*annotation*” that comprises “*a text representing the at least one search term element that is missing in the Internet search result's referenced webpage.*”

Certain dependent claims (*e.g.*, claim 6) require providing “*the annotation*” in response to the presence or absence of a term in “*one or more descendant webpages of the referenced webpage.*” That is, the system identifies whether another webpage—one accessible via a link within the referenced webpage—includes the search term. Bederson-Decl., ¶60 (identifying www.uspto.gov/patents as an example *descendant webpage directly linked one level from www.uspto.gov*). The patent's Figure 6 illustrates such a system. EX1001, 4:36-43; 10:26-45. Searching descendant webpages for search terms was known before 2011. Bederson-Decl., ¶¶61-64 (citing, *e.g.*, EX1009, EX1041-EX1042).

The remaining dependent claims recite other functionality common in prior-art search engines, like filtering search results by search term (*e.g.*, claim 3). These dependent claims are also unpatentable. Bederson-Decl., ¶65.

C. Person of Ordinary Skill in the Art (POSA)

POSAs would have had a bachelor's degree in computer science or a related field, plus at least two years of industry or graduate-level experience with designing user interfaces for Internet search engines. Bederson-Decl., ¶¶33-37.

D. Prosecution History

The as-filed claims were rejected for non-statutory double-patenting, which was traversed via terminal disclaimer, resulting in allowance. EX1002, 93-99, 112-113, 129-138.

V. CLAIM INTERPRETATION

Claim terms are given their ordinary meaning in light of the specification and prosecution history. 37 C.F.R. §42.100(b).

VI. GROUND 1A: BATES, BY ITSELF OR COMBINED WITH BHAGAT, RENDERS OBVIOUS CLAIMS 1-4, 7-8, 12-17, 20-21, AND 25-26

A. Bates (EX1010)³

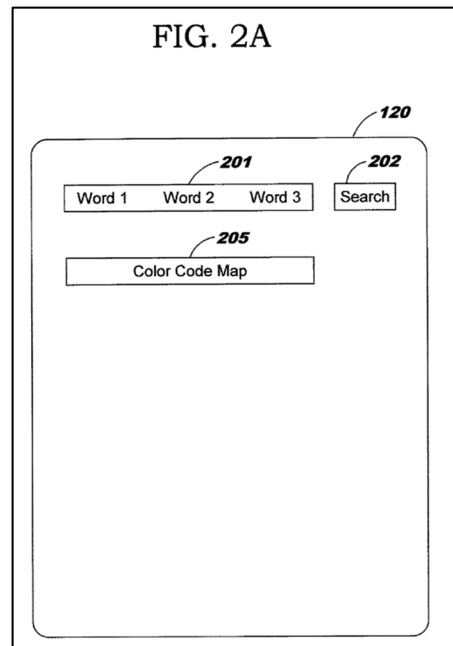
Bates discloses an annotated search-engine interface that uses color to indicate the “occurrence of each keyword” (*i.e.*, search term) in each displayed search result. Abstract. Bates teaches that “color coding search results” allows users to conveniently “interpret[] search output.” [0001].

³ §VI.A's cites are to Bates unless indicated otherwise.

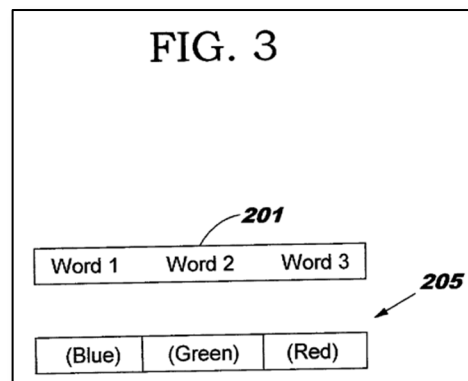
Bates explains that keyword-based searches are “often interpret[ed]” by search engines “as requests to find web pages that contain any one or more of the keywords,” which may “return[] an unusably large number of sources.” [0004]. “For example, a searcher might enter three keywords,” but instead of requiring all three keywords, the “search engine would” “find sources that include” just one keyword “in isolation.” [0006]. The user, however, may only “judge[]” a source to be “relevant to the search” if it matches “at least two of the [three] keywords.” [0006]; Bederson-Decl., ¶¶70-72.

Bates therefore identifies “a need for...presenting the results of a search so that the searcher may form an effective picture of the relevance” of the search results without having to “examine [results] that lack relevant information” but are nevertheless displayed “in the list of [results].” [0009]. Bates addresses this need by collecting “occurrence data” identifying “whether each keyword is present *or absent in each web page*,” and providing that information in “a correlation indicator” displayed within each search result. [0011]-[0012].

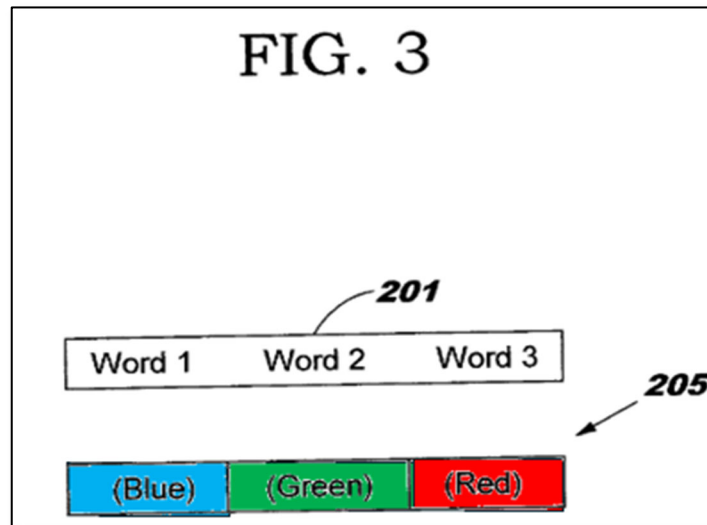
The interface in Bates's Figure 2A (below) includes "an input line 201, wherein keywords may appear as they are entered [by a searcher]." [0018], [0026]. In Figure 2A, three keywords are shown: "word1, word2, and word3." [0026].



A "color code map 205" beneath the input line "provide[s] the searcher" "with a visual association between colors and keywords." [0026]. Bates's Figure 3 (below) "shows an exemplary configuration of the color code map" below the input line. [0029]. Bederson-Decl., ¶¶73-76.

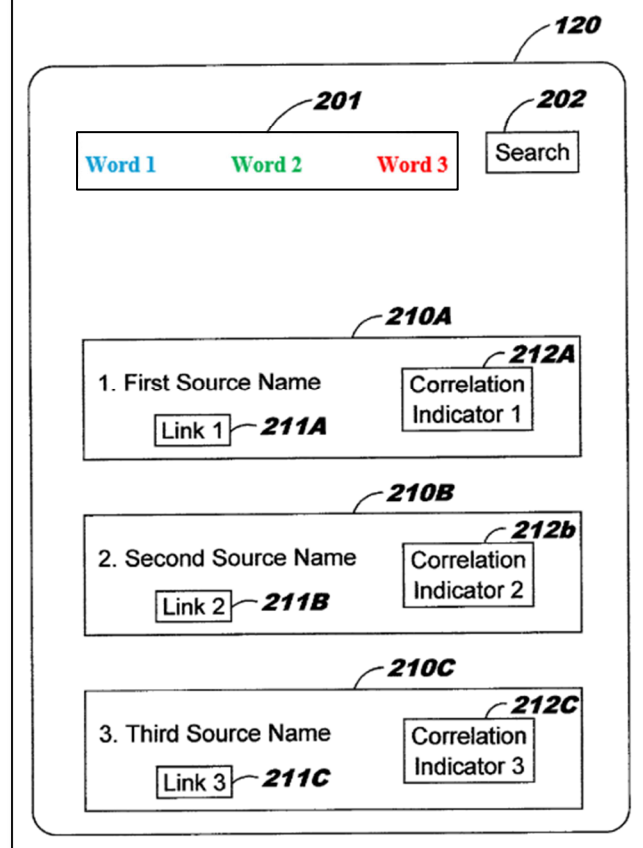


The color-code map “visually associate[s] colors with the keywords that appear on the input line 201. For example, keywords word1, word2, and word3 might appear on the input line 201 as shown in FIG. 3, and be associated with the colors blue, green, and red, respectively.” [0029]. This is seen in the colored version of Figure 3 below:

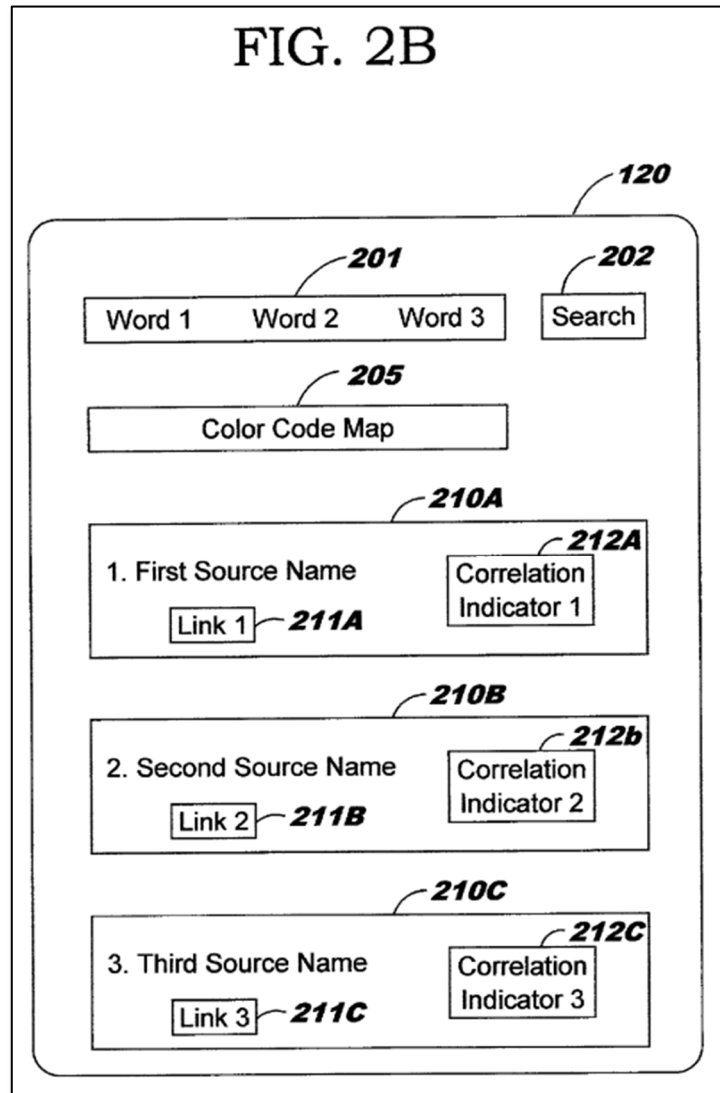


In one embodiment, Bates does not use a separate color-code map (like Figure 3’s color bar 205) but instead changes the font color of each search term as it is typed into input line 201. For example, “word1 might appear in blue characters in the input line 201, word2 might appear in green characters, and word3 in red.” [0031]. Bates refers to using a different color font for each term as an “implicit” color-code map ([0031]), an example of which is illustrated below. Bederson-Decl., ¶77.

FIG. 2B

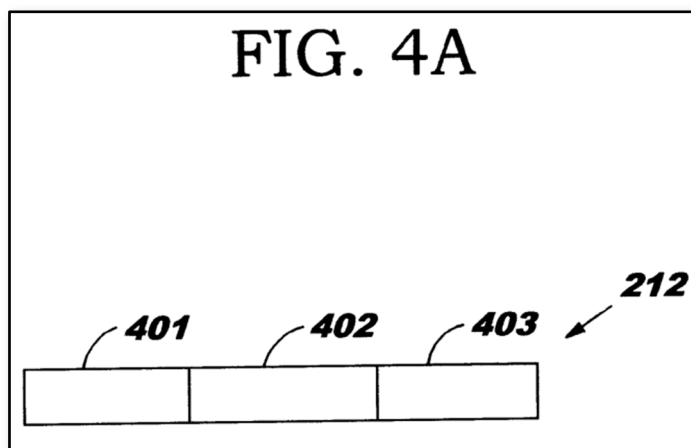


Like Figure 2A, Bates's Figure 2B (below) depicts an interface for Bates's system. [0018]. The input line and color-code map are displayed with an "exemplary presentation of search results," which includes information about webpages 210A-210C that were "found by the search." [0027].



Each search result 210 includes a correlation indicator 212 in "the form of a horizontal bar as shown in FIG. 2B, divided into...segments according to the number of keywords on the display line 201. For example, if there are three keywords, the

horizontal bar correlation indicator may have three segments 401, 402, and 403 as shown in FIG. 4A, associated respectively with the keywords and their colors.” [0044]. Figure 4A’s correlation indicator is shown below:



Using FIG. 4A’s example, Bates says if keyword word1 is present in a webpage, then segment 401 is colored blue; if keyword word2 is present, then segment 402 is colored green; etc. [0033]. But when a keyword is not present, then its segment is “left uncolored, or colored according to a background color not associated with any keyword by the color code map.” [0033].

The demonstrative below illustrates an example of Bates’s system where 212B contains all three keywords, but 210A is missing word1 and 210C is missing word1 and word3 as indicated by the gray-shaded segments (a “background color not associated with any keyword”—[0033]). Bederson-Decl., ¶¶78-81. “Thus, by glancing at the colors of the correlation indicator 212, the searcher 100 may readily grasp the relevance of the URL to the search.” [0033].

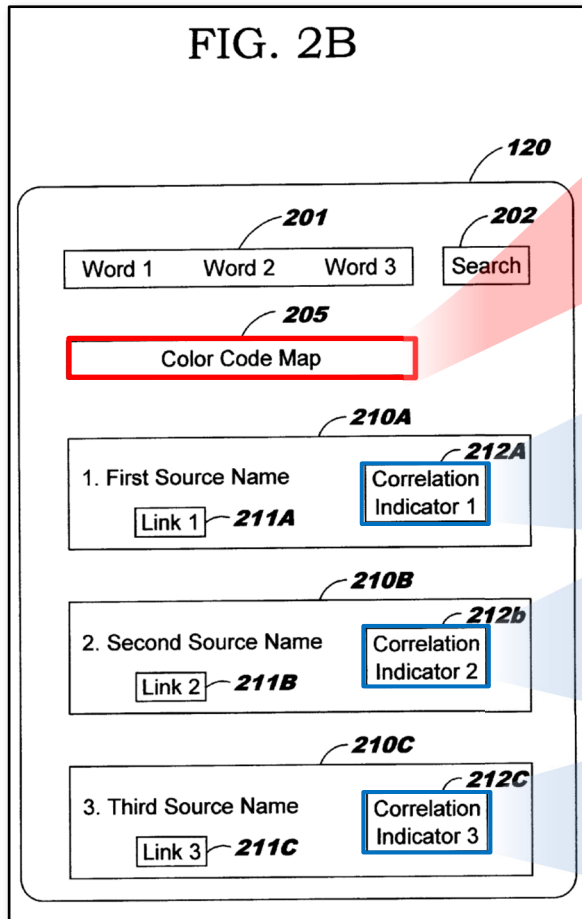
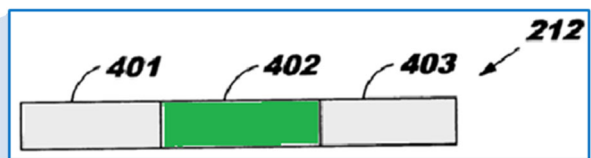
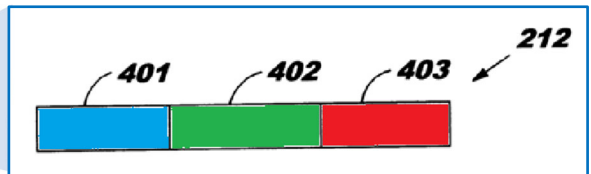
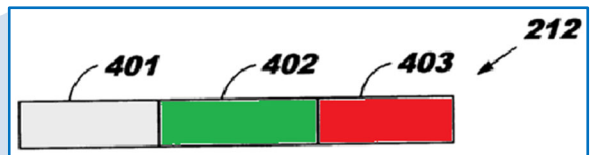


FIG. 3 (colorized excerpt)



FIG. 4A (colorized)



The correlation indicators above are segmented bars of colors ([0033]), but Bates teaches that the indicator “may be *any* visual presentation that uses a color code to convey the presence or absence...of keywords” ([0036]). Bates thus encourages POSAs to consider alternative designs for its correlation indicators 212. Bederson-Decl., ¶82.

Moreover, as annotated Figures 2-4 above illustrate, Bates designs its correlation indicators for the search results to mirror the color-code map 205 for the input field 201. POSAs would thus have recognized that in the “implicit” color-code-map embodiment — *i.e.*, each search term entered into field 201 is coded using

a different color font rather than a colored bar — a straightforward matching implementation of the correlation indicator for each search result would have been to use the color-coded search terms themselves as correlation indicators. This obvious implementation of Bates’s “implicit”-color-code embodiment is discussed in more detail *infra* §VI.C.1. Bederson-Decl., ¶83.

B. Bhagat (EX1011)

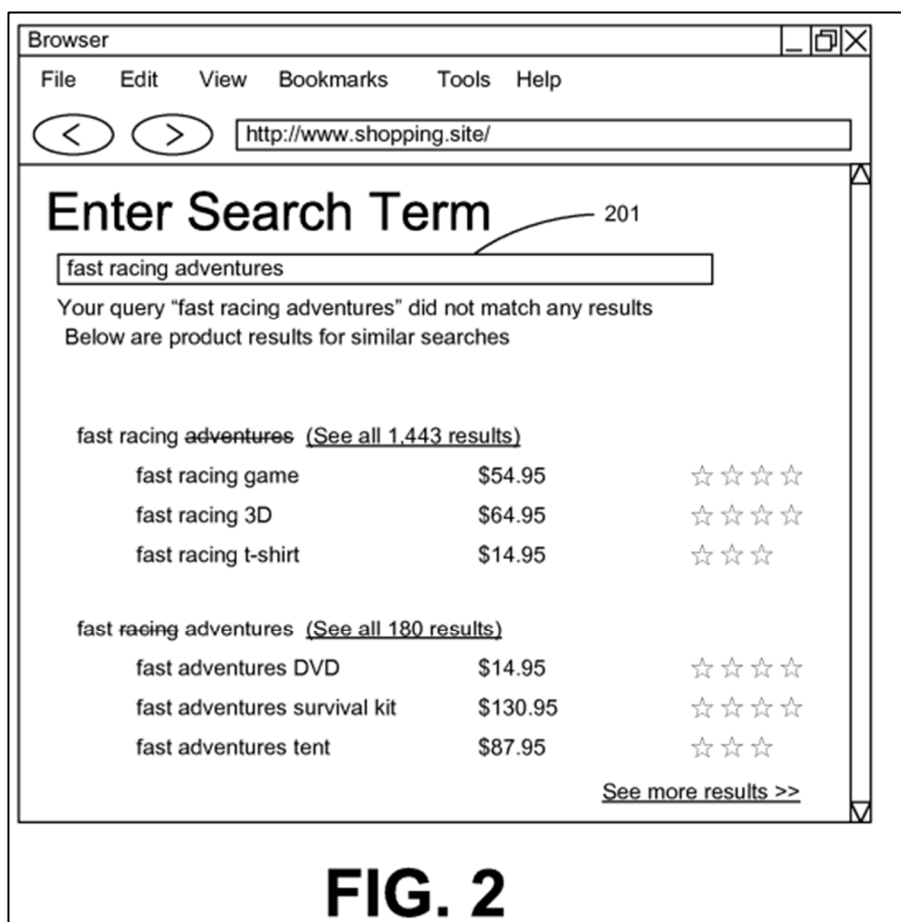
While Bates describes a color-based approach to indicating the presence or absence of search terms, POSAs would have known that there are other ways to visually indicate such information. Bederson-Decl., ¶¶84-85. Bhagat provides one example.

Like Bates, Bhagat discloses a user interface for a search engine that is based on, *e.g.*, “keyword matching.” Bhagat, 1:6-10; FIGS. 2-4. Bhagat discusses examples for “locat[ing] products in an electronic commerce system,” but also says its techniques apply to “a general purpose search engine.” Bhagat, 1:54-58, 2:50-67, 4:6-25.

Bhagat explains that some “search queries...may yield few and/or no search results.” Bhagat, 1:58-62. Rather than display few or no search results, Bhagat says it would be beneficial to generate “suggested queries.” Bhagat, 1:62-2:4; Bederson-Decl., ¶¶86-87. Suggested queries can be generated, in part, “by removing one or more search term[s] from [a] search query” to determine if a revised query matches

a “historical search query” that Bhagat’s system knows yielded relevant results. Bhagat, 6:4-22; *see also* Bhagat, 6:23-37.

In Figure 2’s example (below), the three-word query “fast racing adventures” typed into a search input line “yields no search results.” Bhagat, 8:16-22. In response, Bhagat’s system identifies two historical queries related to the initial query by “remov[ing] a search term” from the initial query. Bhagat, 8:29-34.



POSAs understood the strikethrough text “~~adventures~~” and “~~racing~~” above indicates that the corresponding search results are missing the stricken term, but include the other search term(s) that are not stricken. Bederson-Decl., ¶¶88-89.

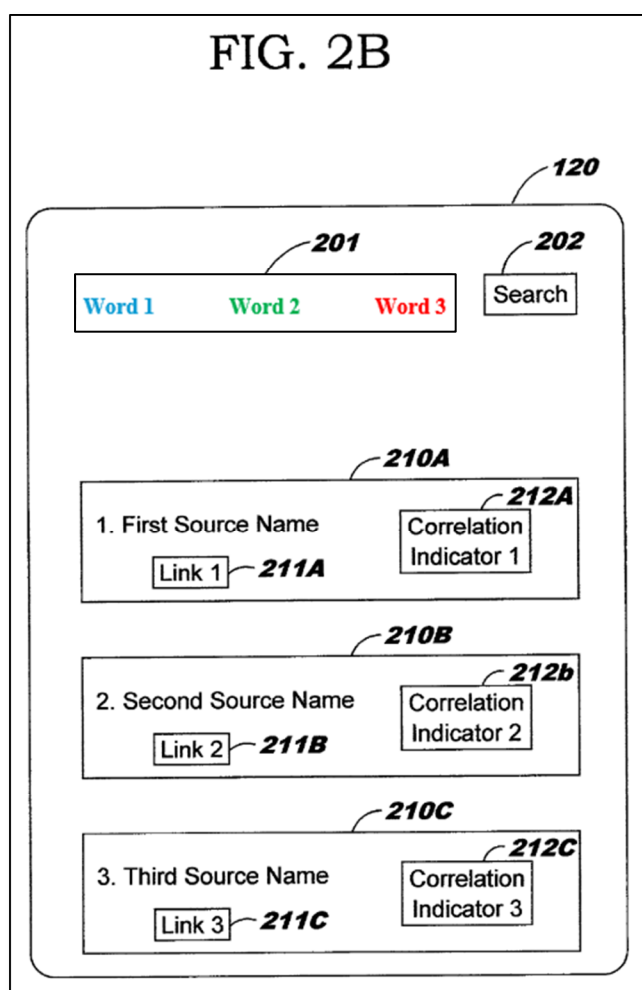
Thus, Bhagat taught POSAs that one way to visually indicate to a user that a search term is missing in a search result is to display the search term next to the search result in strikethrough text. Bederson-Decl., ¶90.

C. Obvious Implementations of Bates and Bates-Bhagat

In Bates's examples, each correlation indicator segments a horizontal bar with colors to indicate the presence or absence of search terms. Bates, [0033]. Bates expressly teaches, however, that its indicator "may be *any visual presentation* that uses a color code to convey the presence or absence...of keywords." Bates, [0036]. Bates thus encourages POSAs to consider alternative techniques for visually indicating that search terms are present or absent. Bates itself plainly suggests one alternative technique (font color), and Bhagat discloses another alternative technique (stricken text). Implementing Bates's system using either technique would have been obvious.

1. Bates Alone

As discussed above (§VI.A) and illustrated below, Bates discloses an embodiment where each search term in the input field is displayed using different colored text, which provides an “implicit” color-code map rather than a separate color bar. Bates, [0031]. For example, “word1 might appear in blue characters in the input line 201, word2 might appear in green characters, and word3 in red.” *Id.*; FIG. 2B; Bederson-Decl., ¶¶91-93.



As seen above, each search term entered into input line 201 is assigned a color and the explicit color-code map 205 is not displayed. Bates, [0031]; Bederson-Decl., ¶¶94-95. And while the corresponding correlation indicators for search results in the “implicit”-color-code embodiment *could* still take the form of segmented horizontal bars of color, another obvious implementation would have been to simply use the color-coded search terms themselves as correlation indicators. Bederson-Decl., ¶95. Indeed, Bates’s Figures 3 and 4 depict an exemplary correlation indicator that uses essentially the same format as the color-code map that is explicitly displayed to the user, and therefore when an “implicit” color-code map is used it would have made sense to POSAs to use the format of that implicit mapping—*i.e.*, different colored fonts—as correlation indicators. *Id.*

Beyond being a logical implementation of Bates’s explicit teachings, POSAs had several additional reasons to make this implementation.

First, remembering what search term corresponds to each color in Bates’s horizontal bar could be unnecessarily cumbersome, and this added mental burden would be beneficially avoided by simply displaying the colored search terms themselves as the correlation indicators. For example, while users *could* memorize the color-code map, that could be challenging for long queries and/or when users are rapidly revising queries. Bederson-Decl., ¶96. Alternatively, while a user *could* repeatedly look up at (or scroll to) the top of Bates’s search-results webpage to re-

review the color-code map, that could be time-consuming, needlessly annoying, and/or potentially cause users to lose their place in a long list of search results. *Id.* POSAs would thus have recognized that using the text of the search terms directly as correlation indicators would convey the same information but beneficially avoid the need to memorize or repeatedly reference the color-code map. Bederson-Decl., ¶¶97. POSAs knew that in user-interface design there are benefits to reducing users' mental-processing load, including by eliminating even small mental tasks elicited by the interface design. Bederson-Decl., ¶¶97-98 (citing EX1066, 73-75, 80).

Second, using color-coded font rather than merely color-coded horizontal bars would have beneficially conveyed the presence or absence of search terms using two compatible forms of visual information: text and color. POSAs knew that “using *multiple visual features to represent the same data attribute*” beneficially “provides redundant coding and results in an increase in the ease, speed, and accuracy in which the users are able to perceive and interpret the information.” EX1023, [0063]; Bederson-Decl., ¶¶99. That Bates's “implicit”-color-code embodiment already combines text and color (*i.e.*, different font colors for the text of different search terms) would have further encouraged POSAs to use both forms of visual communication as a correlation indicator too. Bederson-Decl., ¶¶99.

Third, using color-coded text as Bates's correlation indicator would have been an obvious combination of prior-art search-result annotations (color- and text-based

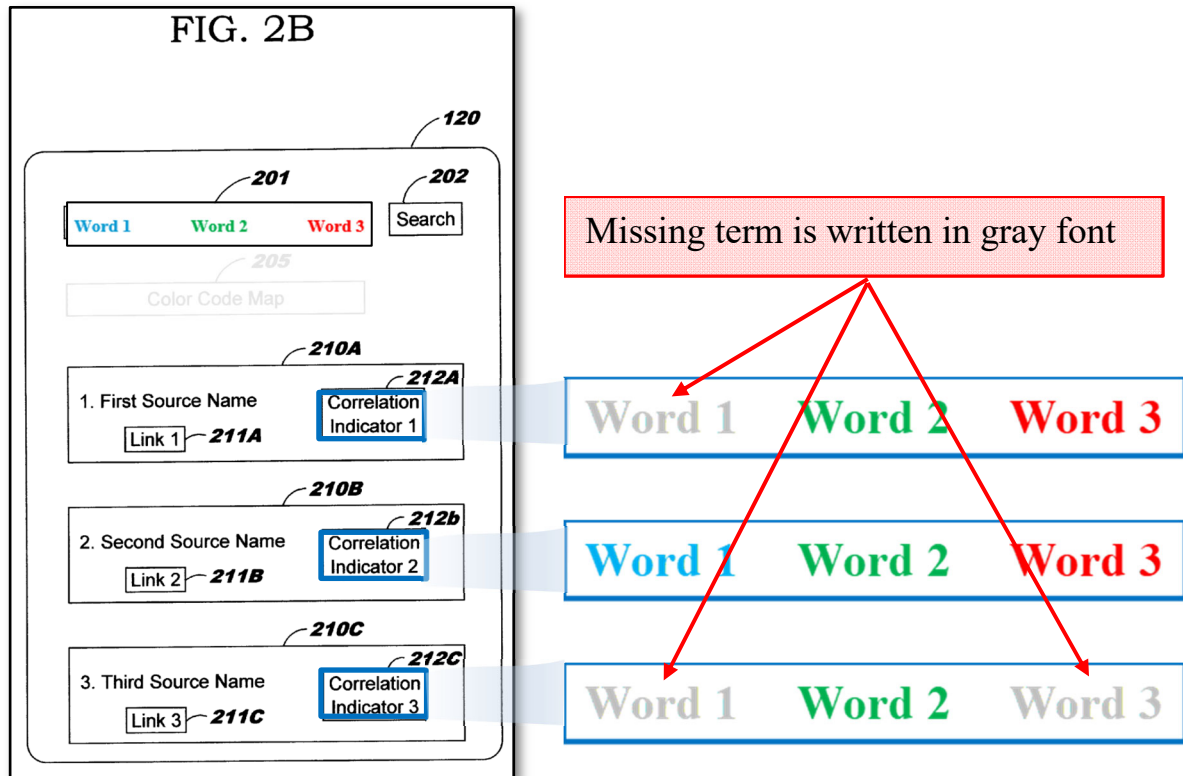
annotations) with Bates’s known annotation method to yield the predictable result of using color-coding *and* search-term text to indicate the presence/absence of search terms in Internet search results. *KSR Int’l. Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007); Bederson-Decl., ¶100.

POSAs would have recognized that a straightforward implementation of Bates’s “implicit”-color-code embodiment would change Bates’s correlation indicators from color-coded segmented horizontal bars to color-coded text of the search terms themselves, making the format of each search result’s correlation indicator match the format Bates expressly describes for the search input field (analogous to how the original color-bar correlation indicator 212 matched the color-bar map 205 in the explicit-color-code embodiment).⁴ Bederson-Decl., ¶101. Similar to Bates’s horizontal bar, each search term’s text would be displayed using its assigned color when the term is present in the search result, and using an unassigned color (*e.g.*, muted-gray) when the term is not present in the search result. Bates, [0028]. Using gray font was a known, beneficial, and easily understood way to indicate the absence of search terms in search results. EX1046, [0047] (“gray is

⁴ Another obvious implementation would have been to maintain Bates’s bars of color, but write the search terms within those bars, *e.g.*, in white or black font. Bederson-Decl., ¶106.

allocated to a keyword that has a hit ratio of 0.0000”), FIG. 6 (depicting same); *see also* Bederson-Decl., ¶¶102-105 (citing EX1024, [0005]).

The following demonstrative depicts this obvious implementation:



2. Bates-Bhagat

In view of Bhagat, an alternative obvious implementation of Bates would have changed Bates’s correlation indicators from bars of colors to text-based indicators of whether search terms are present or missing. For example, POSAs would have used the text of the search terms as correlation indicators, with missing terms formatted with a strikethrough as Bhagat teaches. Bederson-Decl., ¶107. POSAs had several reasons to make this change.

First, as explained for the Bates-alone implementation, using text-based annotation would make Bates's system more user-friendly as a user would not need to memorize a color-code map or scroll up to remind themselves what color corresponds to what search term. *Supra* §V.C.1 (citing corroboration). Bederson-Decl., ¶108.

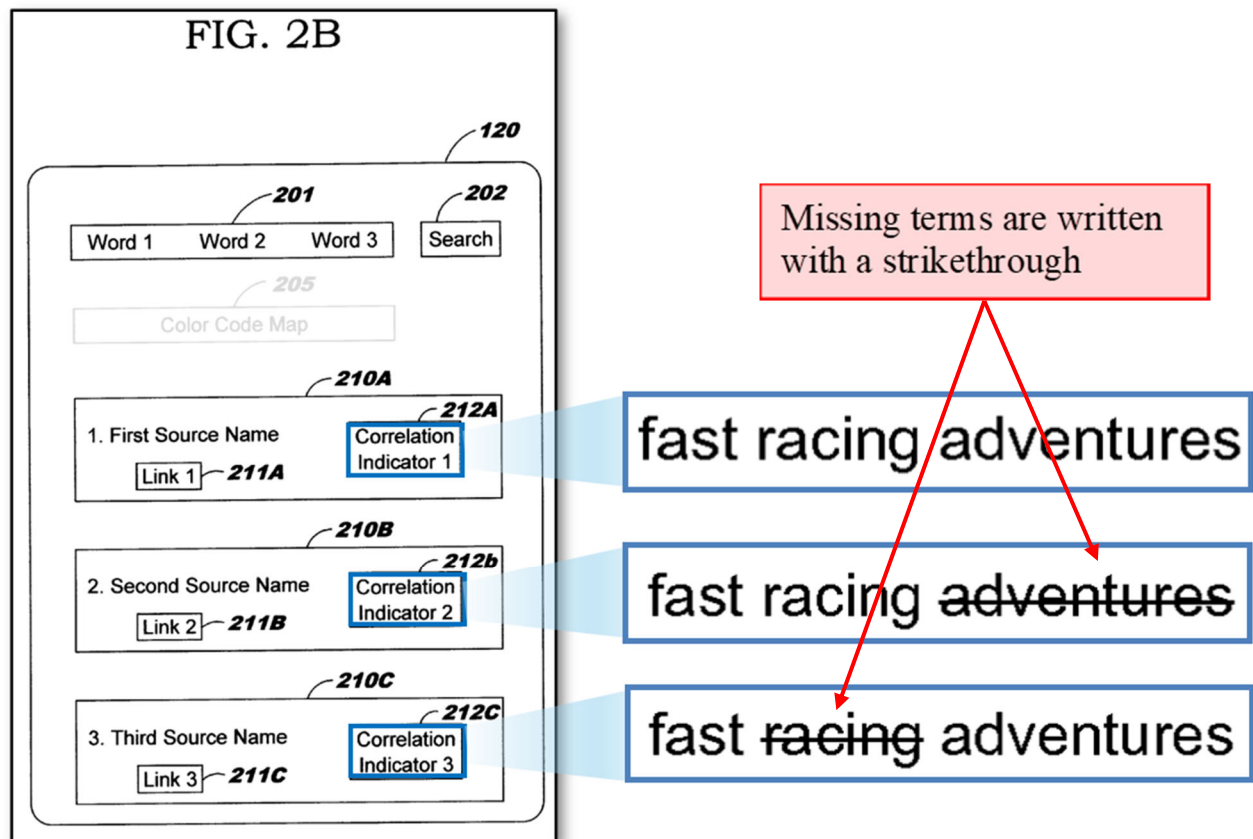
Second, colorblind users could have difficulty interpreting Bates's color coding because as the number of search terms increased it would become harder to display easy-to-distinguish colors. Bederson-Decl., ¶109; EX1019, [0002]-[0005] ("red-green color blindness" struggles with distinguishing red and green and/or sees them as another color (*e.g.*, yellow)), [0010]. Therefore, using search-term text as Bates's correlation indicator would have made the indicator easier to understand for colorblind users. Bederson-Decl., ¶¶110-112 (corroborating with EX1022, [0012]; EX1051, [0026]-[0028]).

Third, some devices had black-and-white-only displays, which made differentiating between more than two colors difficult. Bederson-Decl., ¶113 (corroborating with EX1020, [0044], [0048]; EX1021, [0030], [0042]). POSAs would have recognized that for black-and-white-only displays, using search-term text as the correlation indicator would have made the indicator easier to display and understand. Bederson-Decl., ¶114.

Fourth, using text rather than color to convey information regarding a search result would have been the simple substitution of one known element for another to obtain predictable results. *KSR*, 550 U.S. at 417. Using text to convey information about the contents of a search result was well known. Bederson-Decl., ¶115 (citing examples, including EX1030, EX1045). Using text rather than color to convey information would have been a routine design choice for POSAs as both options accomplish the same predictable result: visually conveying information regarding the presence/absence of search terms to users. Bederson-Decl., ¶¶116-119.

Finally, given the numerous benefits text-based correlation indicators offer (§VI.C.1), POSAs would not have been discouraged from using such indicators simply because Bates ([0036]) expresses a general preference for color. Bederson-Decl., ¶120 (highlighting similarities between indicating a missing term using white/gray color (Bates) and using strikethrough text (Bhagat)); *UCB, Inc. v. Actavis Laby's UT, Inc.*, 65 F.4th 679, 692 (Fed. Cir. 2023). Indeed, POSAs would have also known that Bhagat's text annotations could easily be implemented using color font (as Bates, [0031] suggests) with added strikethroughs rather than black font with added strikethroughs, further confirming that Bates's preference for color would not have discouraged POSAs from pursuing the proposed combination. Bederson-Decl., ¶121.

Using Bates's Figure 2B (annotated below left) as an example based on the search query and annotations illustrated in Bhagat's Figure 2 (excerpted below right), the correlation indicators in Bates-Bhagat would display the user's search terms (in black or colored font), using strikethrough format for a term missing from a search result. For example, in response to searching for "fast racing adventures," the second and third correlation indicators below indicate that "adventures" is missing from result 210B and "racing" is missing from result 210C. Bederson-Decl., ¶122.



POSAs would have reasonably expected success in the two implementations discussed above because Bates ([0031]) teaches how to replace color-bar coding with text-color coding, Bates ([0033]) collects search-term occurrence data like that used to generate Bhagat's strikethroughs, and both references rely on conventional search-computing technologies (Bates, [0024]; Bhagat, 2:15-17). Bederson-Decl., ¶123. Thus, it would have required only POSAs' ordinary programming skill to implement Bates-alone and Bates-Bhagat. That Bates and Bhagat are in the same field (search-result interfaces) and address the same problem (how to provide users with helpful information regarding their searches) further underscores the references' compatibility. *Id.*

D. Mapping to Claims

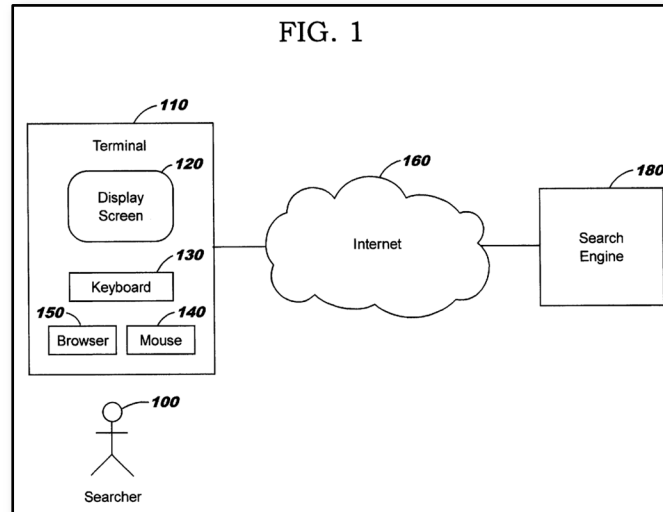
1. Claim 1

- a. [1PRE] “A method for providing an annotation...to warn the user when the Internet search result[]...is missing one or more search term elements....”**

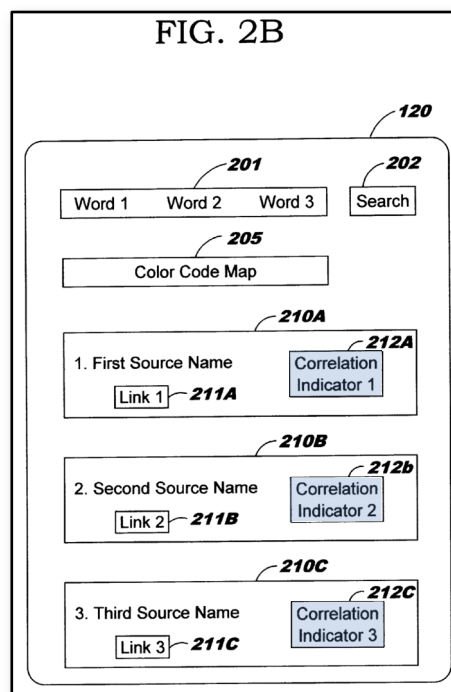
Bates discloses “*a method...for...coding search results*” when “Internet users conduct searches to find pages on the Word World Web.” Bates, [0001]. Bates's method *provides* correlation indicators (discussed below) as *annotations for Internet search results*. Bederson-Decl., ¶124.

As illustrated in Bates's FIG. 1 (below), “a searcher [*user*] employs a terminal 110” (Bates, [0023]), which “displays on the display 120 links to the sources [*referenced webpages*]” that are returned by the Internet “*search engine 180*” (Bates,

[0039]). *See also* Bates, [0011] (“search engine executes a search...that identif[ies] web pages....”); Bederson-Decl., ¶125.



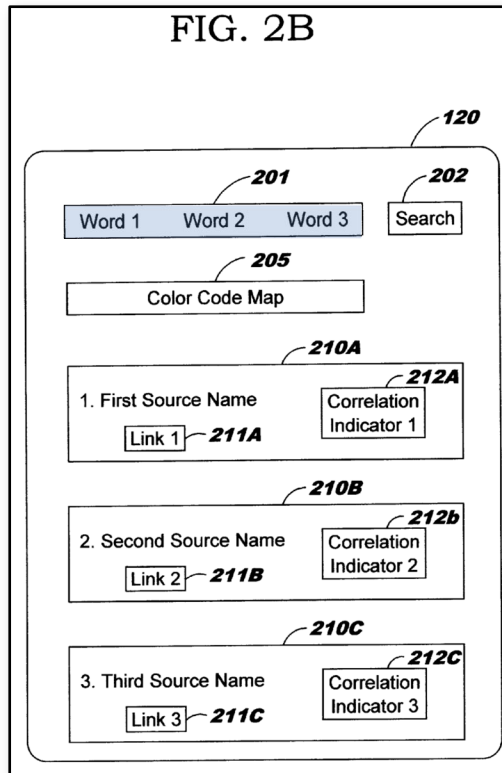
As depicted in Figure 2B (below), each search result has a correlation indicator 212 (*annotation*) (highlighted blue below), which is *for display to a user of the Internet search engine* as they view display screen 120. Bates, [0026]-[0027].



As discussed above (§VI.A), each correlation indicator (*annotation*) allows “the searcher” to “readily grasp the relevance of the URL to the search.” Bates, [0033], [0015], [0009]. For example, when “the web page that is identified by the URL...does not contain keyword word1 then the first segment 401 of the horizontal bar may be left uncolored, or colored according to a background color not associated with any keyword by the color code map.” Bates, [0033]. Thus, Bates’s correlation indicator *warns the user when the Internet search result’s referenced webpage is missing one or more search term elements supplied by the user. See also infra* §VI.D.1.g ([1F]: discussing specific annotation formats of Bates-alone and Bates-Bhagat). Bederson-Decl., ¶¶126-127.

b. [1A] “receiving...search term elements...”

Bates’s “terminal 110” (*the user’s computing device*) includes a “browser.” Bates, [0024]. “To conduct a search, the searcher [*user*] 100 may enter keywords into the browser,” which are “sen[t]...over the Internet 160 to the search engine.” Bates, [0024], FIG. 1. Bates’s Figure 2B (highlighted below) shows an example search request (blue) comprising three “keywords word1, word2, and word3,” *i.e.*, three *search term elements* are received by the Internet search engine *from the user’s computing device*. Bates, [0026]-[0027]. Bederson-Decl., ¶128.



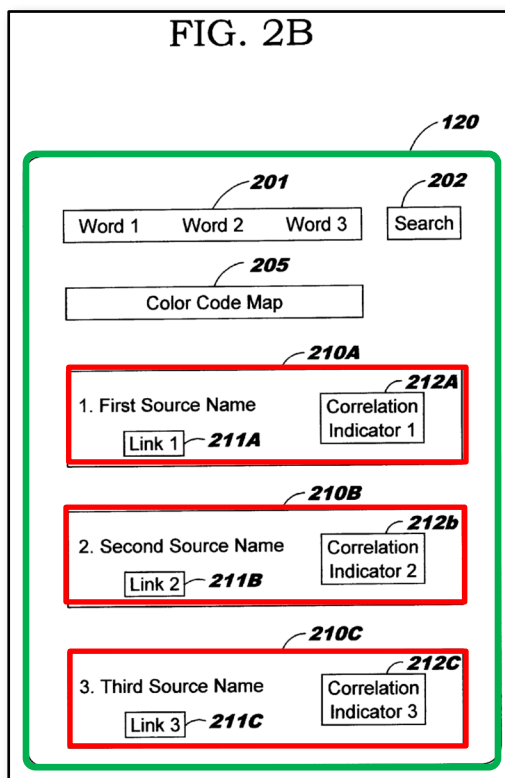
c. [1B] “...search engine generates” an “Internet search result referencing a webpage...,”

Bates’s “search engine executes [the] search, and sends to the browser a set of uniform resource locators (URLs) that identify web pages purportedly relevant to the search, along with occurrence data that report...whether each keyword is present or absent in each web page.” Bates, [0011], FIG. 1. For example, if “a searcher” “enter[s] three keywords, the words ‘alpha,’ ‘beta,’ and ‘gamma,’” “[t]he search engine would then find sources [webpages] that include the keyword[s].” Bates, [0006]; *see also* [0030].

Thus, Bates’s *Internet search engine generates, based at least in part on the supplied search term elements, at least one Internet search result referencing a*

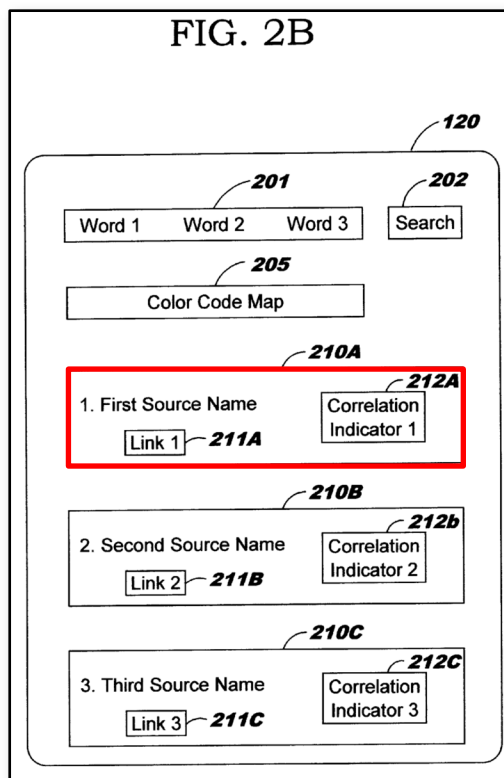
webpage (i.e., a webpage “relevant to” one or more user-supplied keywords—Bates, [0011]). Bederson-Decl., ¶¶129-130.

“For each URL, the browser” “displays links to the URLs and the associated correlation indicators to the searcher.” Bates, [0012]. Bates’s Figure 2B (highlighted below) “shows...an image” of Internet search results (210A-210C; red boxes) in the *search results webpage* that “appear[s] on” terminal 110’s (*user’s computing device’s*) “display screen 120” (green box) (Bates, [0027]). Thus, the search results are generated *for display on a search results webpage on the user’s computing device*. Bederson-Decl., ¶131.



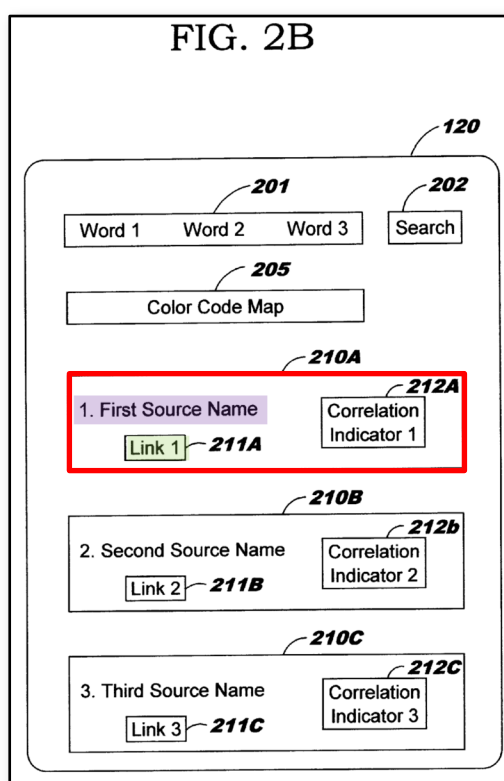
d. [1C] “the Internet search result is displayed...as a search result grouping...”

Bates’s FIG. 2B (highlighted below) shows “an image...on the display screen” as *the search results webpage*. Bates, [0027]. “The exemplary presentation includes information about a first web page 210A” (red), which is an *Internet search result that is displayed as a search result grouping* (e.g., grouping the result’s “Source Name,” Link 211A, and Correlation Indicator 212A). Bates, [0027]-[0028]; Bederson-Decl., ¶132.



- e. [1D] “the search result grouping is comprised of at least one of: a title..., an Internet link..., an excerpt..., or a URL...;”

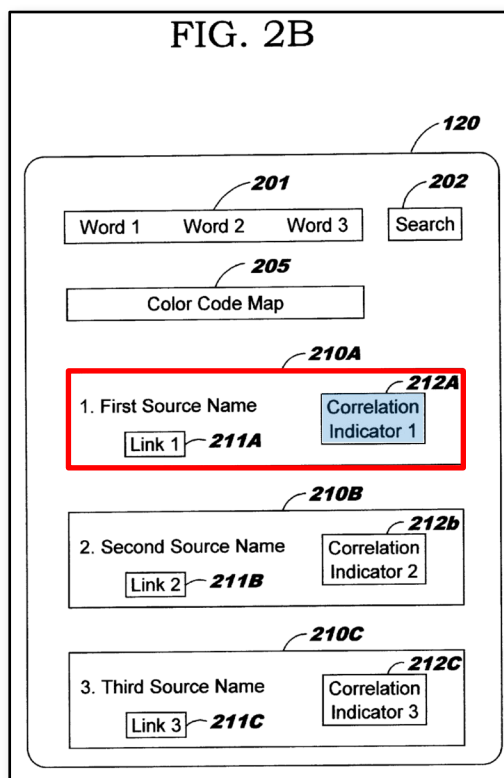
Bates’s *search result grouping* (red box below) *comprises for the referenced webpage* a Source Name, *i.e., a title* (purple), and a “*URL* 211A that identifies the first web page” (green), which is both *an Internet link* (“*Link* 1” in FIG. 2B) and a *URL*. Bates, [0028]. Bederson-Decl., ¶133.



- f. [1E] “determining whether to generate an annotation..., wherein it is determined to generate the annotation if at least one search term element is missing...,”

Bates’s “search engine executes [the] search, and sends to the browser a set of uniform resource locators (URLs) that identify web pages purportedly relevant to

the search, along with occurrence data that report...whether each keyword is present or absent in each web page.” Bates, [0011]; FIG. 1. “For each URL, the browser formulates a correlation indicator” (*an annotation*) and, as shown in FIG. 2B (below), “displays...the associated correlation indicators [blue] to the searcher.” Bates, [0012]. Bederson-Decl., ¶134.



Thus, Bates’s method *determines whether to generate an annotation (i.e., whether to generate a correlation indicator of a particular format) for the Internet search result for display on the search result webpage.* Bederson-Decl., ¶135.

“For example, if there are three keywords the horizontal bar correlation indicator may have three segments 401, 402, and 403 as shown in FIG. 4A,

associated respectively with the keywords and their colors.” Bates, [0033]. Bederson-Decl., ¶136. When a search-result webpage “contains keyword word1, the first segment 401 of the horizontal bar correlation indicator may be colored blue,” but when the webpage “does not contain keyword word1, then the first segment 401 of the horizontal bar may be left uncolored, or colored according to a background color not associated with any keyword by the color code map 205.” Bates, [0033]; Bederson-Decl., ¶137. For example, Bates’s method determines whether to generate a correlation indicator with the first segment colored gray based on whether word1 is missing from the search result.

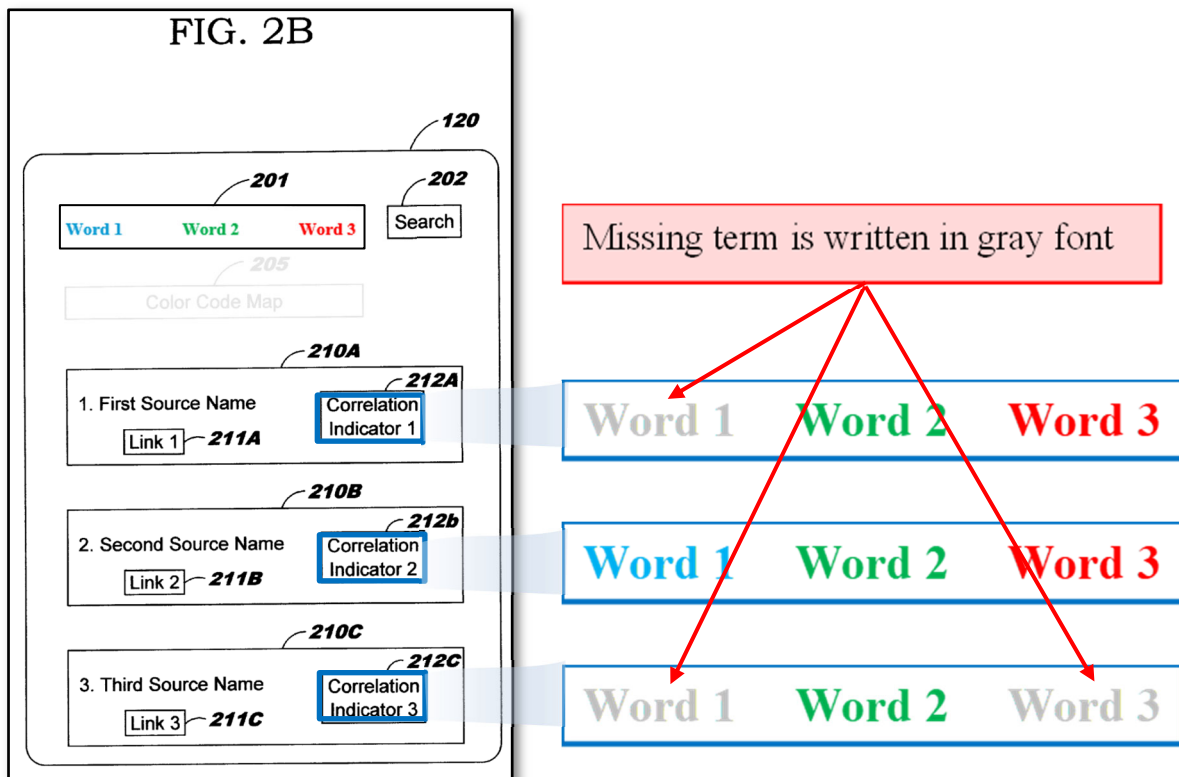
Thus, Bates determines whether to generate a particular correlation indicator (*annotation*) based on whether a *search term element is missing in the Internet search result’s referenced webpage*. Bederson-Decl., ¶¶138-139. *See also* EX1064, 114-116.

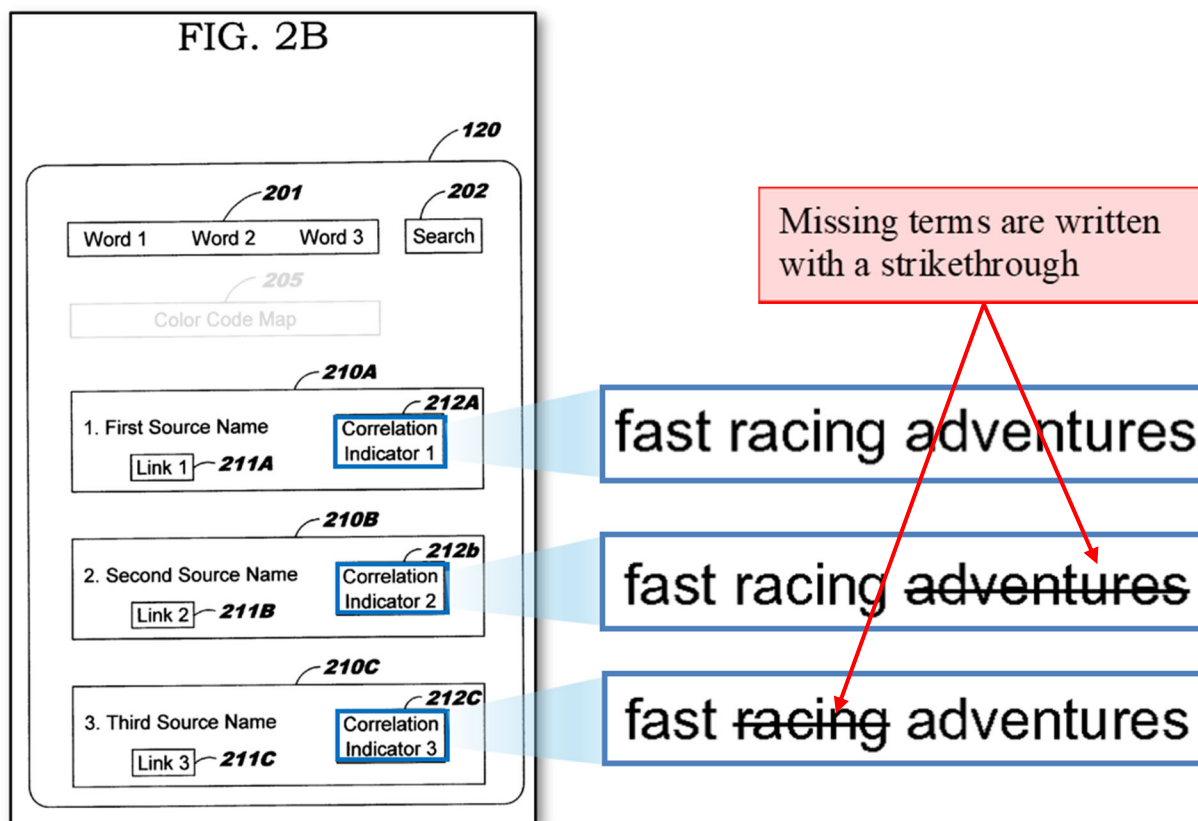
- g. [1F] “the annotation is comprised of a text representing the at least one search term element that is missing...”**

As discussed above (§VI.A, §VI.D.1.a), Bates’s method presents a search result with a correlation indicator (*the annotation*) that indicates the *search-term element(s) that is missing in the Internet search result’s referenced webpage*. Bates, [0033], [0015], [0009].

As discussed above (§§VI.C.1-2) and depicted below, based on either Bates's own teachings or Bhagat's teachings, the correlation indicator in Bates-alone or Bates-Bhagat *is comprised of a text representing the missing search term element(s)*, e.g., the missing search term's text is written in grayed-out font (Bates-alone) or is written with a strikethrough (Bates-Bhagat). *See also infra* §VI.D.7 (claim 12); Bederson-Decl., ¶¶140-141.

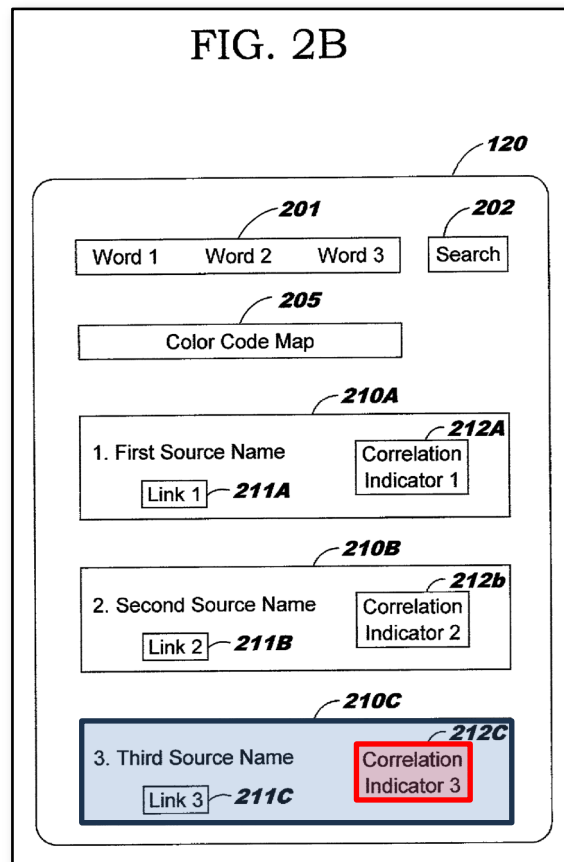
Bates-alone





- h. [1G] “...causing the annotation to be displayed adjacent to or within the...search result grouping....”

As Bates’s FIG. 2B (highlighted below) and the illustrative figures of Bates-alone and Bates-Bhagat immediately above show, Bates’s method *causes* the *annotation* (red-highlighted correlation indicator) *to be displayed within* and/or *adjacent to the Internet search result grouping* (blue-highlighted 210) *on the search results webpage*. Bederson-Decl., ¶142.

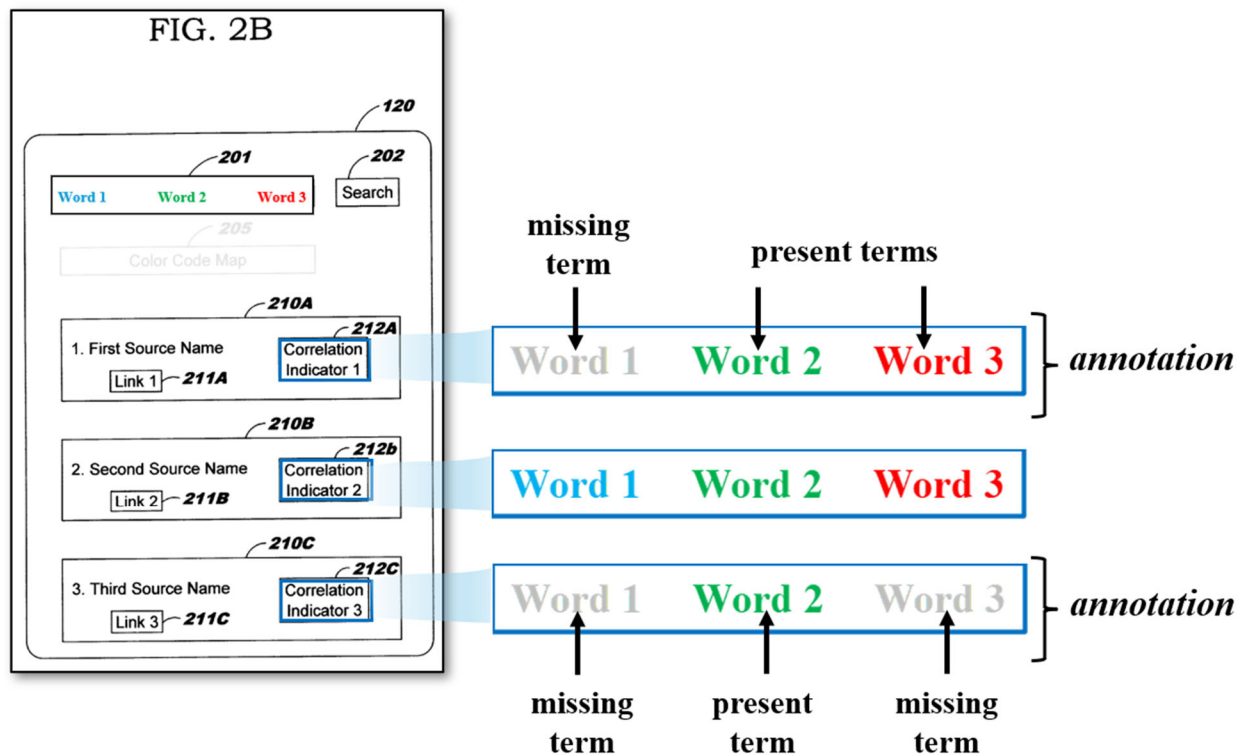


2. **Claim 2:** “...the annotation is further comprised of...one search term element that is present....”

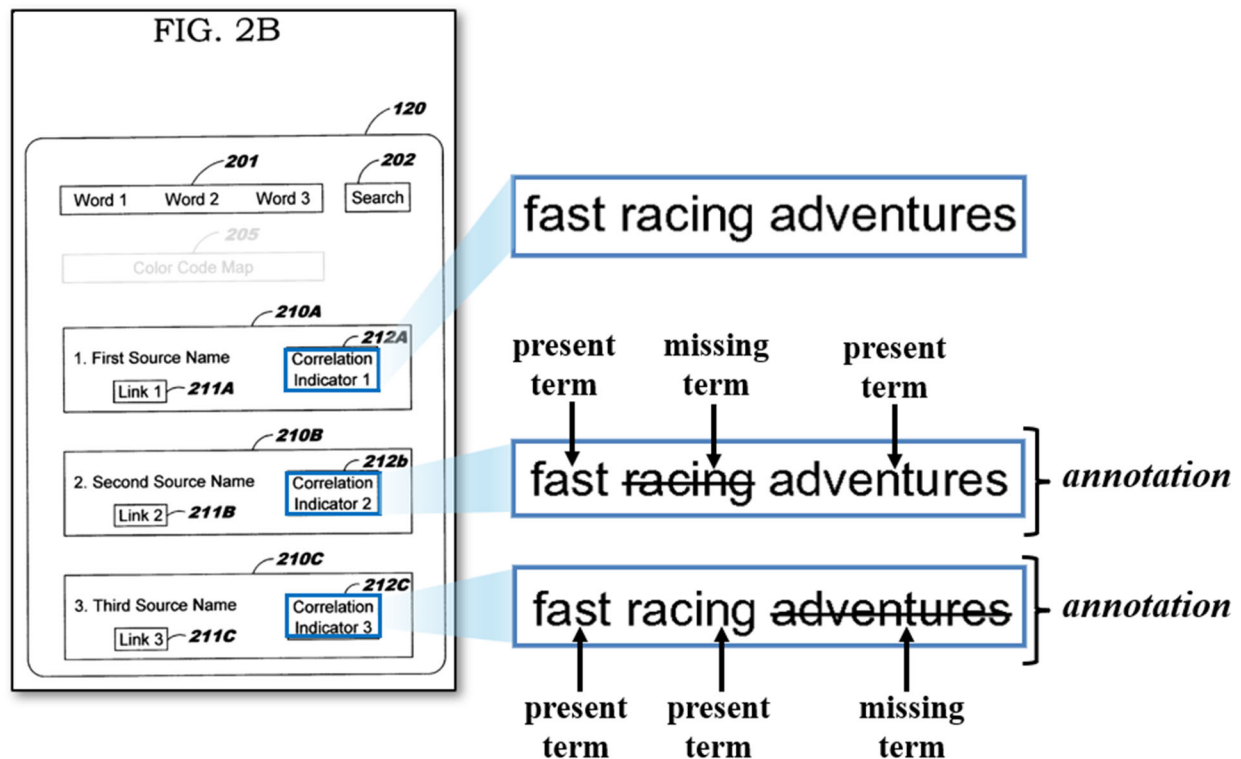
The antecedent basis for claim 2’s “*the annotation*” is limitations [1E]-[1F], met by a correlation indicator with the text of missing search terms written in muted-

gray (Bates-alone) or a strikethrough format (Bates-Bhagat). This annotation is also *comprised of a text representing the search term element that is present*. See Bates, [0011] (explaining that correlation indicators identify search terms “*present...in each*” search result).

For example, in the Bates-alone illustration below, “*the annotation*” of limitations [1E]-[1F] is met by the correlation indicator in the first or third search grouping (comprising text of missing search-term elements), and that annotation also comprises the text of search term elements present in each respective webpage, *i.e.*, present search terms are displayed in their assigned color font. Bederson-Decl., ¶¶143-145.



Likewise, in the Bates-Bhagat illustration below, “*the annotation*” of limitations [1E]-[1F] is met by the correlation indicator in the second or third search grouping, and that annotation also comprises the text of search term elements present in each respective webpage, *i.e.*, present search terms are displayed with no strikethrough. Bederson-Decl., ¶146.



3. Claim 3: “...method...is performed by the Internet search engine”

Bates’s *Internet “search engine // conducts an Internet search* to locate web pages that contains the keywords” supplied by the user. Bates, [0024]. As discussed above, as part of the search method, Bates’s *Internet search engine* receives the search term elements from the user’s computing device ([1A], §VI.D.1.b; Bates, [0024]), generates the Internet search results based on the keywords ([1B], §VI.D.1.c; Bates, [0024]), generates keyword occurrence data used to determine which correlation indicators (*annotations*) to display ([1B], §VI.D.1.c; Bates, [0024]), identifies the title, Internet link, and URL for each referenced webpage displayed in the search results ([1C]-[1D], §§VI.D.1.d-e; Bates, [0024], [0027]-[0028], FIG. 2B), and transmits that information to the user’s computing device ([1PRE], §VI.D.1.a; Bates, [0024], [0027]-[0028]). Bederson-Decl., ¶147.

If claim 3 requires the determination to generate an annotation ([1E]-[1G]) to also be made by the Internet search engine, performing that step by the *search engine* would have been an obvious implementation of Bates-alone and Bates-Bhagat as a matter of design choice. Bates itself teaches that the different elements of its system (e.g., the terminal, browser, and search engine) “may be combined in various combinations and may be either external or internal to the terminal.” Bates, [0025]. For example, Bates says “the search engine” can be “built into the terminal 110 but the data to be searched is remote.” Bates, [0025]. Thus, Bates is teaching (or at least

suggesting and rendering obvious) having all steps discussed above for claim 1 performed by a single device (*e.g.*, the *Internet search engine* device). Bederson-Decl., ¶148.

Moreover, it would have been obvious to implement Bates’s search engine to generate the annotation because it was common in the prior art for annotations to be generated by an *Internet search engine* (*e.g.*, search-engine server) connected to the user computing devices via the Internet, which would have beneficially reduced the processing load on user computing devices. Bederson-Decl., ¶¶149-151 (citing EX1012, [0029]; EX1034, FIGS. 1 & 3-4, 6:52-7:21).

4. Claim 4: “...method...is performed on the user’s computing device by...a software program.”

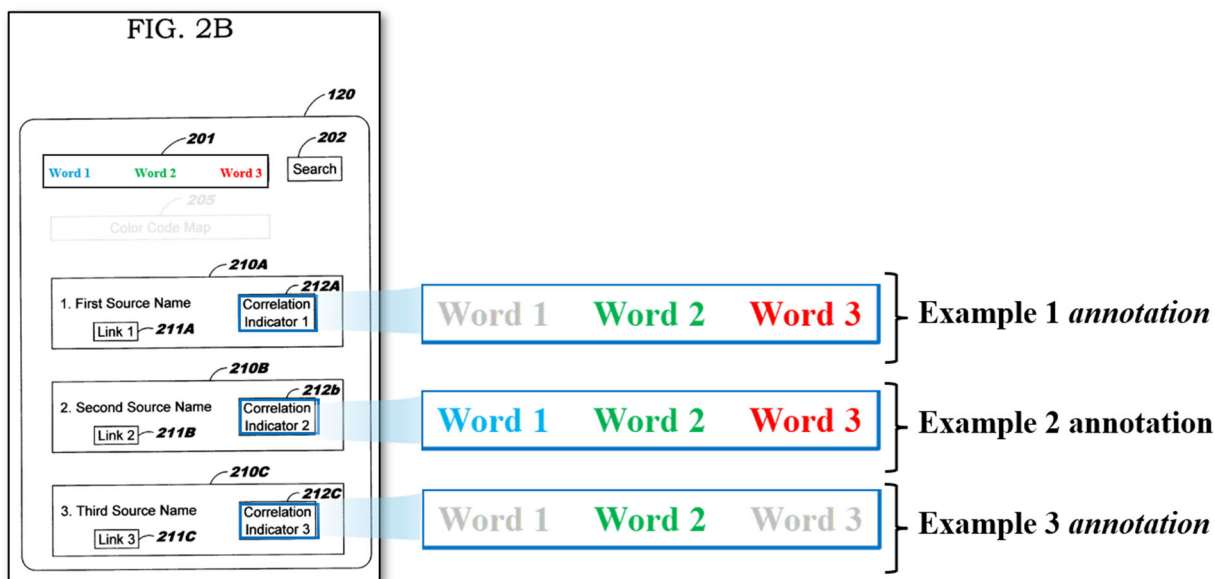
Bates’s “invention applies to all kinds of search environments, including...search conducted locally by a workstation or terminal” (*i.e.*, *on the user’s computing device*), “where the search engine 180 is...***built into the terminal.***” Bates, [0025]. Bates’s claims similarly disclose implementing its method with “***programmable software.***” Bates, claim 1. Thus, it would have been obvious for Bates-alone and Bates-Bhagat to *perform* claim 1’s method *on the user’s computing device* using *a software program*. Bederson-Decl., ¶152.

5. Claim 7: “...determined not to generate the annotation...if all of the supplied search term elements are present....”

The antecedent basis for *the annotation* in claim 7 is the annotation recited in limitations [1E]-[1F], met by a correlation indicator that includes text of missing search terms written in muted-gray (Bates-alone) or in a strikethrough format (Bates-Bhagat). Therefore, to meet claim 7, when all supplied search terms are present in a search result, the method does not generate *the annotation* of limitations [1E]-[1F] (though it could generate a different annotation instead). Bederson-Decl., ¶153.

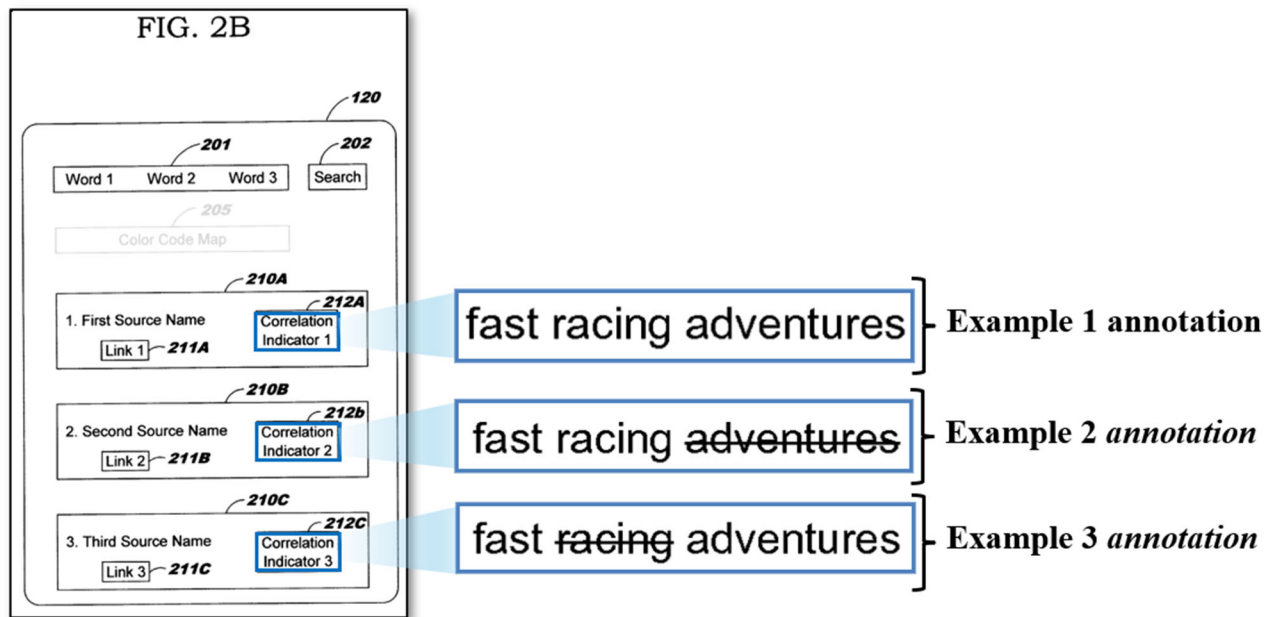
Bates-alone and Bates-Bhagat meet claim 7. For example, *if all of the search term elements are present in the Internet search result’s referenced webpage*, then Bates’s method—as used in Bates-alone and Bates-Bhagat—will **not** generate *the annotation* discussed above for limitations [1E]-[1F] (§§VI.D.1.f-g), *i.e.*, an annotation in which one or more words is written in muted-gray font or in strikethrough format. Instead, *if all of the search term elements are present*, Bates’s method will generate a different annotation, *i.e.*, an annotation where **all** of the search-term elements are shown in ***an assigned colored font***, *e.g.*, red, blue, green (Bates-alone) or in non-strikethrough format (Bates-Bhagat). Bederson-Decl., ¶154. Thus, Bates-alone and Bates-Bhagat *determine not to generate the annotation* that meets limitations [1E]-[1F] if all *supplied search term elements are present in the referenced webpage*. *Id.*

The illustration of Bates-alone below shows three different annotations. As discussed *supra* §§VI.D.1.f-g, either the first or third *annotation* (Example 1 or 3 below) meets limitations [1E]-[1F]. Neither of those *annotations* is generated for a search result *if all of the search term elements are present* in that search result. Instead, the Example 2 annotation depicted below is generated. Bederson-Decl., ¶155.



Likewise, the illustration of Bates-Bhagat below shows three different annotations, with the second or third *annotation* meeting limitations [1E]-[1F]. *Supra* §§VI.D.1.f-g. Neither of those *annotations* is generated for a search result *if all of the search term elements are present* in that search result. Instead, the first annotation depicted below is generated. Bederson-Decl., ¶¶156-158; *see also* EX1064, 117 (Patent Owner’s infringement contentions, which map claim 7 to a

search engine that allegedly generates “different annotations based upon whether or not a search term element is missing from a search result’s referenced webpage”).



POSAs alternatively had reason for Bates-alone and Bates-Bhagat not to generate *any* annotation when all search-term elements are present in a referenced webpage. POSAs would have recognized that this would have been an alternative, efficient way to convey the same information to the user, because it would be simple and straightforward to instruct users generally that an annotation appears only when a search-term element is missing (and thus the default understanding is that all search-term elements are present in the corresponding webpage in the absence of an annotation). Bederson-Decl., ¶159.

6. Claim 8: “...search term element is considered present...if the webpage contains at least one of: the search term element, a synonym..., or a misspelled version...”

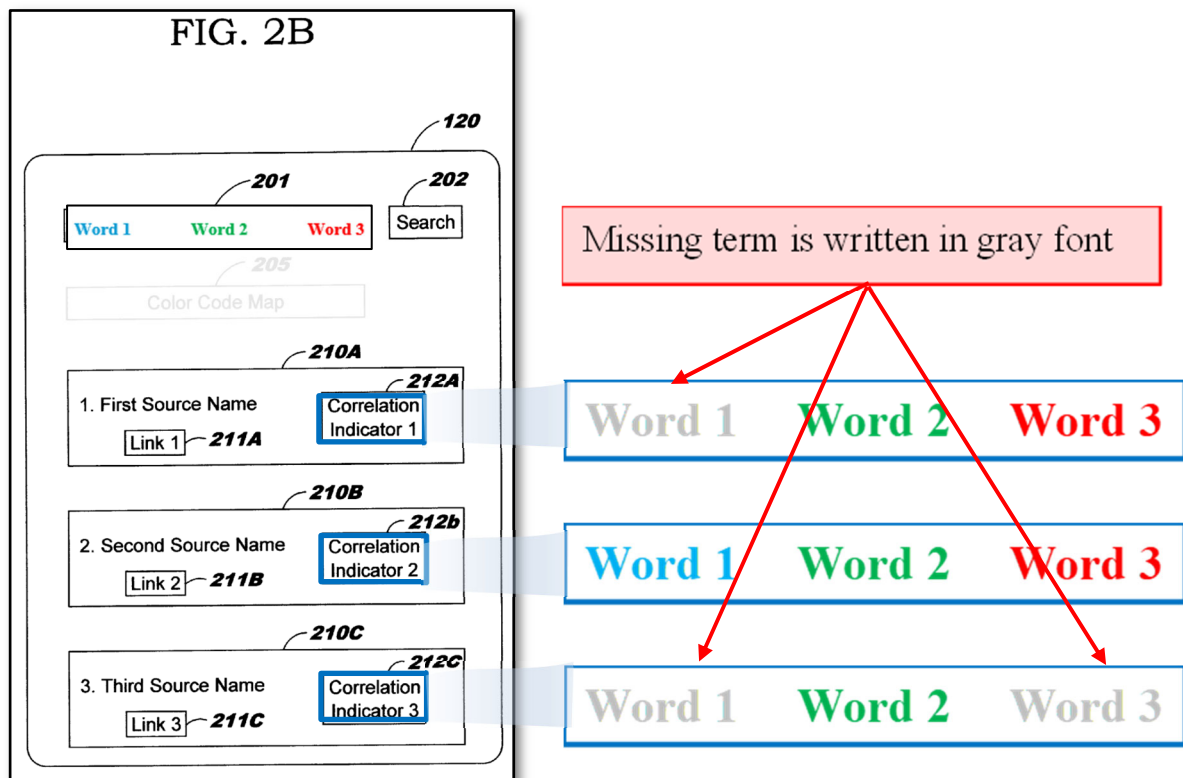
As discussed above (§§VI.C.1-2; §VI.D.1.b), in Bates-alone and Bates-Bhagat *a search term element is considered present if the webpage contains the **search term element** itself.* Bates, [0006], [0024]. Bederson-Decl., ¶160.

Additionally, considering synonyms and/or misspelled versions of search terms would have been obvious as known techniques used to improve the Bates-alone or Bates-Bhagat search engine in the same way as was known in background art, by beneficially ensuring webpages were not excluded because of a spelling error and/or including only a synonym. *KSR*, 550 U.S. at 417. Bederson-Decl., ¶¶161-163 (citing corroborating EX1059, [0014]-[0015] (“search[ing] for...synonyms” of “search terms”); EX1060, [0002], [0005] (“indexing...a webpage that includes...misspelled words” and “automatically correcting a spelling”)).

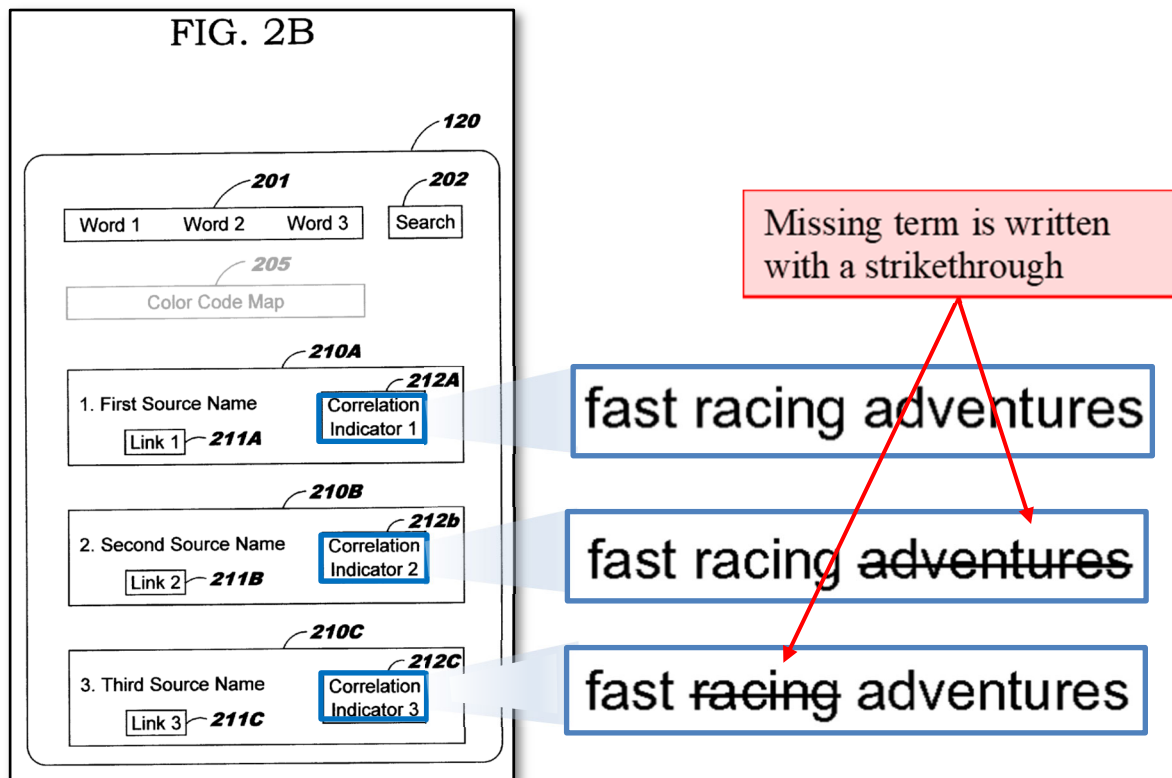
7. Claim 12

Bates-alone and Bates-Bhagat meet claim 12 because their correlation indicators use *text representing the at least one search term element [] shown in one or more of the formats* recited in claim 12. Bederson-Decl., ¶164.

In Bates-alone, illustrated below, each missing *search term element* is written in a font “color not associated with any keyword by the color code map 205” (Bates, [0033]) (e.g., muted-gray), which meets (i) *a font representing the text has been altered* (from its initially assigned color (e.g., “blue” or “red”) to a different color (e.g., muted-gray)). Bederson-Decl., ¶¶165-166.



In Bates-Bhagat, illustrated below, each missing *search term element* is written with a strikethrough, which meets the *formats* of (i) a font representing the text has been altered; (ii) the text is shown with one or more lines merged with the text; and/or (iii) the text is shown with one or more lines superimposed thereupon. Bederson-Decl., ¶167.



8. Claim 13

As discussed above (§VI.D.1.a), Bates’s correlation indicator (*the annotation*) allows “the searcher [*user*]” to “*readily grasp the relevance* of the URL to the search” (Bates, [0033], [0015], [0040]) and, thus, *enables the user to reduce lost time, thereby speeding an Internet search process* because it indicates which search-

term element(s) are missing from and which are present in each search result, thereby allowing a user to ascertain that information without having to lengthen the process by clicking on each website. Bederson-Decl., ¶¶168-171 (citing corroborating EX1027, [0005]-[0006]; EX1048, 5:45-6:7).

9. Claim 14

Claim 14 recites a system that largely mirrors claim 1’s method, where the method steps ([1A]-[1D], [1E]-[1F], and [1G]) are performed by respective *modules*—*receiving module* [14A], *determining module* [14E], and *annotating module* [14G]. POSAs understood a *module* to be hardware and/or software. Bederson-Decl., ¶¶172-173 (citing EX1061, [0073]). Bates says its “invention applies” to a system using “computer programs, software, logic, and configurations that provide the functions described” in Bates. Bates, [0037]. Thus, Bates teaches (or at least suggests and renders obvious) implementing its system via *modules* that perform the method steps. Bederson-Decl., ¶174.

Bates-alone and Bates-Bhagat meet the following limitations of claim 14 for the reasons discussed in the corresponding sections above. Bederson-Decl., ¶175.

Limitation	Addressed in Section:
[14PRE]	§VI.D.1.a ([1PRE])
[14A]	§VI.D.1.b ([1A]; where <i>a receiving module</i> implements the <i>receiving</i>).
[14B]	§VI.D.1.c ([1B])
[14C]	§VI.D.1.d ([1C])
[14D]	§VI.D.1.e ([1D])
[14E]	§VI.D.1.f ([1E]; where a <i>determining module</i> implements the <i>determining</i>).
[14F]	§VI.D.1.g ([1F])
[14G]	§VI.D.1.h ([1G]; where an <i>annotating module</i> implements the <i>annotating</i>).

10. Claims 15-17, 20-21, 25-26

Bates-alone and Bates-Bhagat meet the limitations added by the claims below for the reasons discussed in the corresponding sections above, where the system is implemented using the *modules* discussed *supra* §VI.D.9. Bederson-Decl., ¶176.

Claim	Addressed in Section:
15	§VI.D.2 ([claim 2])
16	§VI.D.3 ([claim 3])
17	§VI.D.4 ([claim 4])
20	§VI.D.5 ([claim 7])
21	§VI.D.6 ([claim 8])
25	§VI.D.7 ([claim 12])
26	§VI.D.8 ([claim 13])

VII. GROUND 1B: THE GROUND 1A COMBINATIONS IN VIEW OF NAICK RENDER OBVIOUS CLAIMS 5-6 AND 18-19

Ground 1B challenges claims that require *determining not to generate the annotation* of claims 1/14 if each search term *that is missing in the referenced webpage is present in one or more descendant webpages* (hereinafter “the descendant-webpage limitation”). A “*descendant webpage*” is a webpage to which a search-result webpage links; for example, if www.uspto.gov is the search-result webpage, then www.uspto.gov/patent is a “*descendant webpage*” because a link to this webpage is found at www.uspto.gov. EX1001, 10:26-11:16, FIGS. 6-7. Bederson-Decl., ¶¶177-181.

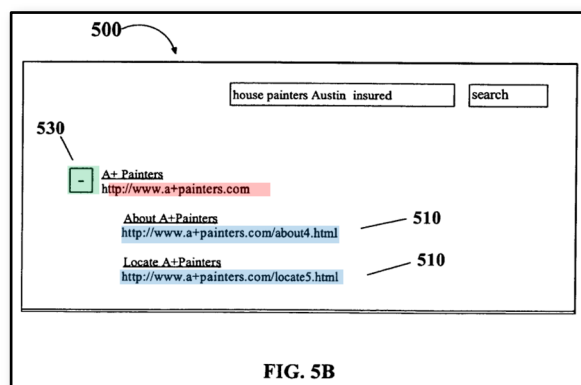
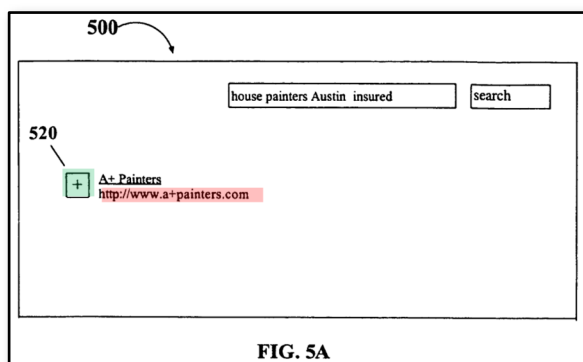
A. Naick (EX1009)

Naick concerns “query based Internet searching.” Naick, [0001]. Naick teaches that some “conventional search systems fail to return web sites that may contain the requested information” because the website “do[es] not have all search terms located on *a single page* of the site.” Naick, [0004]. A website may be relevant to a query, but because no single page on the website includes all the search terms, it is not returned as a search result, which prevents the user “from receiving possibl[y] relevant information.” Naick, [0004]; [0023]; Bederson-Decl., ¶¶182-183.

Naick addresses this potential deficiency by disclosing “query based searches that provide results wherein at least one of the query terms...may appear on a

different page of a web site or domain.” Naick, [0005], [0018]. With Naick’s search, “grouped pages may be evaluated as a single searchable entity, and search results may be grouped according to domain.” Naick, [0006]. Naick’s technique evaluates a keyword index that “hold[s] and compare[s] domain information *i.e.* web site information rather than web page information.” Naick, [0021]. Thus, rather than indexing search terms only for individual webpages, Naick indexes search terms based on their presence in at least one of multiple, related webpages from the same website. Bederson-Decl., ¶184.

As shown in Naick’s Figure 5A (highlighted below left), search results initially display only the relevant website’s homepage/top-level domain (*e.g.*, “http://www.a+painters.com” highlighted red). Naick, [0025]-[0026], [0018]-[0019]. Clicking the “+/- icon” (green) shows descendant webpages (highlighted blue in Figure 5B below right) that contributed to the top-level website being identified in the results, *i.e.*, Naick can display the descendant webpages that contained one or more of the search terms. Naick, [0002]. Bederson-Decl., ¶185.



B. The Bates-Naick and Bates-Bhagat-Naick Combinations

Naick teaches that providing search results based only on matching keywords for individual webpages, rather than considering related webpages within the same website, may miss “possibl[y] relevant information.” Naick, [0004]. Thus, POSAs had motivation to include in the methods/systems in Ground 1A’s Bates-alone and Bates-Bhagat combinations the ability to identify potentially relevant results based on search terms found on both a webpage and its related webpages (*e.g.*, a website’s homepage and descendant webpages). Bederson-Decl., ¶186.

In these Ground 1B combinations, based on Naick, Bates’s search engine would have identified a webpage as relevant based on the presence of keywords in the webpage itself and/or in its descendant webpage(s), including descendant webpages that are linked one level from the webpage itself. *Id.* This implementation is consistent with Naick’s Figure 5B, which depicts descendant webpages (*e.g.*, “<http://www.a+painters.com/about4.html>”) that are linked directly one level from the referenced webpage (“<http://www.a+painters.com/>”). Naick, [0024]-[0025]; Bederson-Decl., ¶¶187-192.

POSAs would have reasonably expected success because Naick’s “[s]earch logic may be substantially similar to that of conventional search systems” (Naick, [0026]) and only requires a “search engine,” like Bates’s, with “conventional components” (Naick, [0027]-[0028]). Bederson-Decl., ¶193.

C. Mapping to Claims

1. Claims 5, 18

Claims 5 and 18 depend, respectively, from independent claims 1 and 14. Ground 1B's combinations build on Ground 1A's combinations (Bates-alone and Bates-Bhagat), and meet those independent claims for the same reasons Ground 1A's combinations do. *Supra* Ground 1A; Bederson-Decl., ¶¶194-195.

As discussed above (§VII.B), each Ground 1B combination includes the *annotations* and *modules* used in either Bates-alone or Bates-Bhagat. *Supra* Ground 1A, limitations [1E]-[1F], [14A], [14E]-[14F]. As discussed above (§VI.D.5, **claim 7**), Bates-alone and Bates-Bhagat *determine not to generate the annotation* that meets [1E]-[1F] (§§VI.D.1.f-g) and [14E]-[14F] (§VI.D.9) *if all search term elements are present in the referenced webpage*. In Ground 1B, based on Naick, *all search terms are considered present* (and *the annotation* that identifies a missing search term is **not generated**) *if each search term is present in either the referenced webpage or a descendent webpage linked one level therefrom*. Naick, [0004]-[0006], [0022]-[0023]; Bederson-Decl., ¶196.

2. Claims 6, 19

Claims 6 and 19, which depend from dependent claims 5 and 18, respectively, add the same limitation that claim 8 adds to dependent claim 7. *Supra* Ground 1A. Ground 1B's combinations maintain the same annotations discussed for Ground 1A,

and thus meet claims 6 and 19 for the same reasons discussed in Ground 1A for claim 8. Bederson-Decl., ¶¶197-199.

VIII. GROUND 1C: THE GROUND 1A COMBINATIONS IN VIEW OF BRINSON RENDER OBVIOUS CLAIMS 9 AND 22

The claims challenged in Ground 1C require that the claimed method/system include *a selectable filtering function that, when selected by the user, causes the search-result webpages missing the at least one search term element to be removed from being displayed* (hereinafter “the *selectable-filtering-function* limitation”). Bederson-Decl., ¶¶200-202.

A. Brinson (EX1007)

Brinson discloses a graphical user interface (GUI) for search engines that allows users to designate a search term’s “weight” to indicate its “significance” to a search. Brinson, [0044]. If a term is designated “required” as its “weight value,” then “any data product [*e.g.*, webpage] included in the results must include this term.” Brinson, [0045]; [0030] (“data products...includ[e]...web page[s]”).

In Figure 16’s example (below), search terms entered into “query text box 352” [blue] are also displayed in “list box 360” [green]. Brinson, [0069]-[0071]. “[D]isplay area 366” provides a list of data products (webpages) relevant to the search. Brinson, [0072]. The user can subsequently designate an initial search term’s weight by selecting it from list box 360, which sends the term to “text box

356'' (red) where the term's weight can be designated, *e.g.*, as a required term.

Brinson, [0071]; *see also id.*, claims 7, 24; Bederson-Decl., ¶¶203-206.

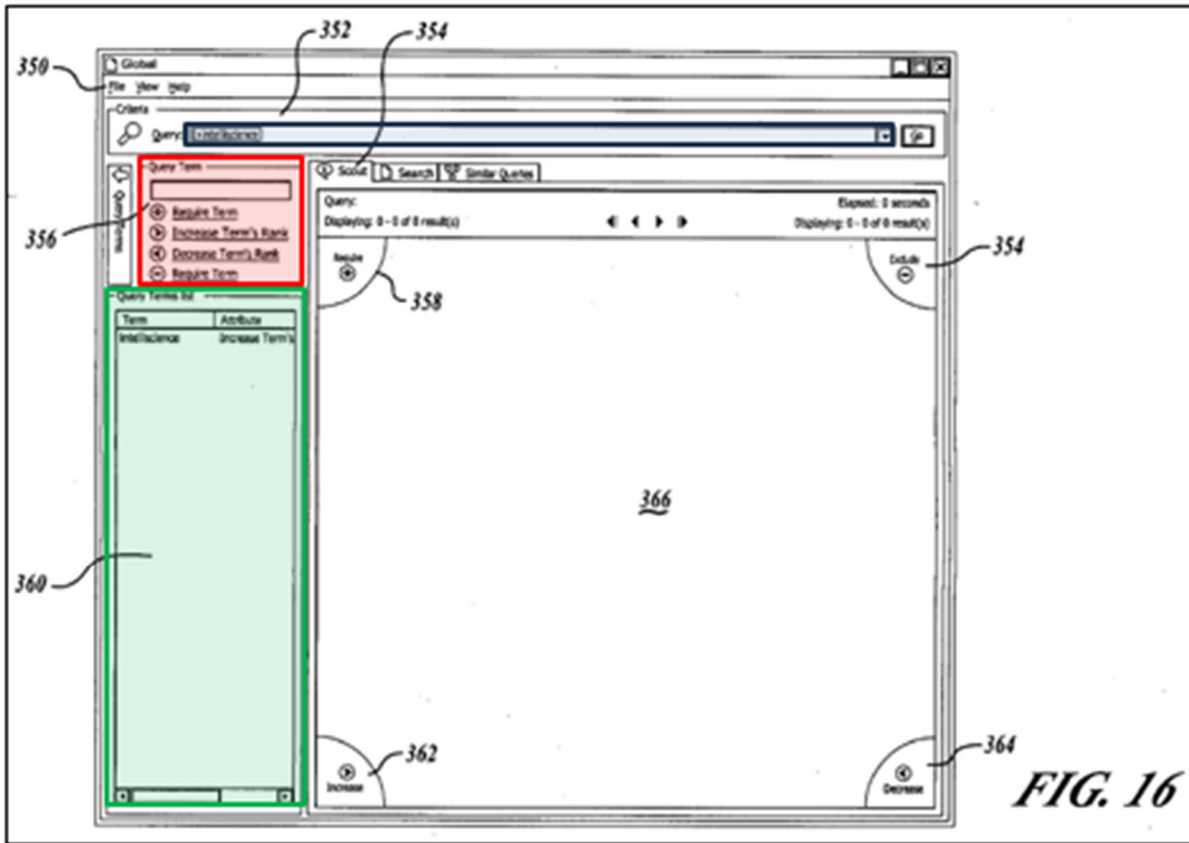


Figure 18's example (below) is similar. Certain terms that appear in each data product (website) are listed below each data product and each term can be selected to designate its weight, *e.g.*, as a required term. Brinson, [0073] ("terms shown under a data product in list 380 can be selected by the user to refine the present search"); Bederson-Decl., ¶207.

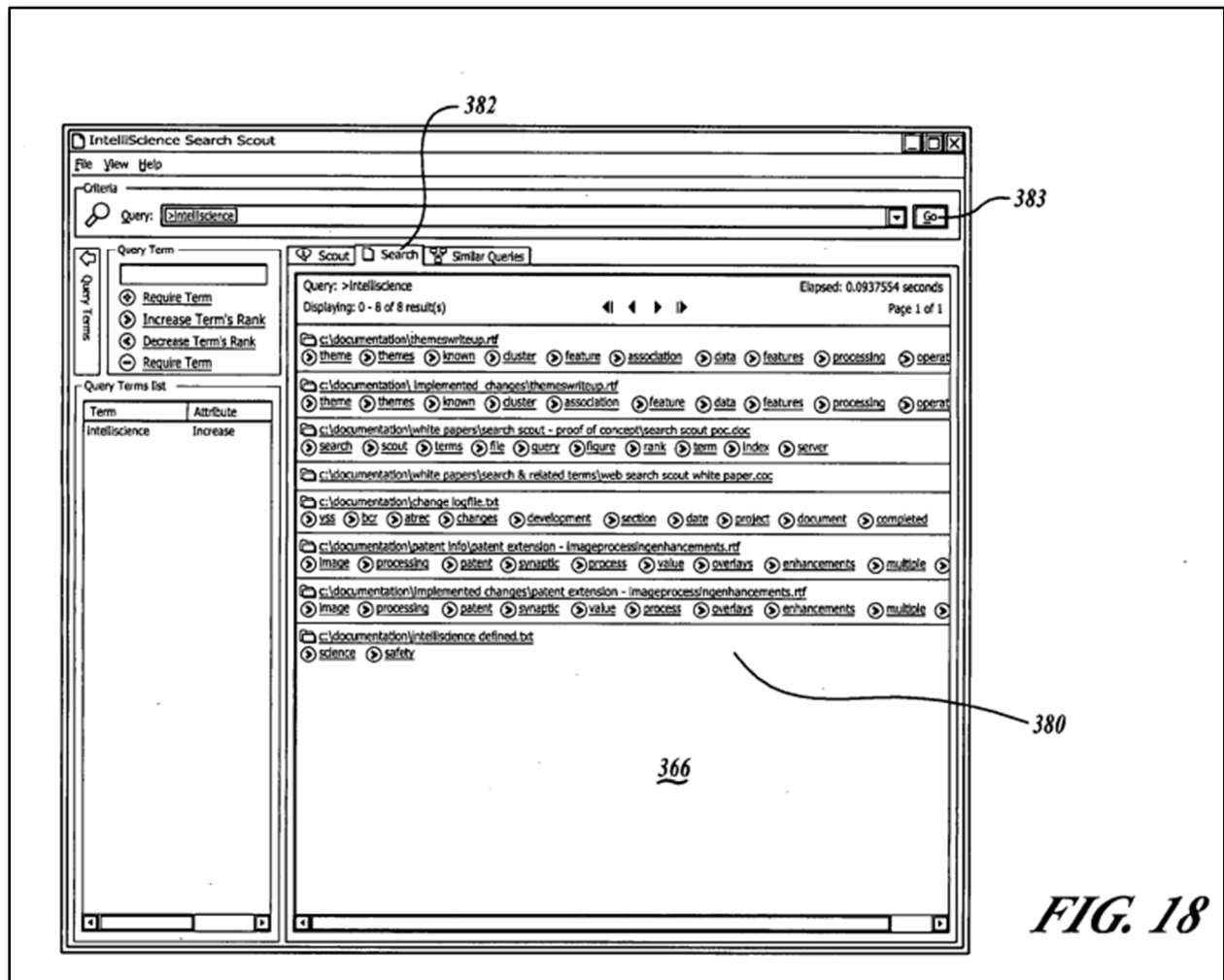


FIG. 18

B. The Bates-Brinson and Bates-Bhagat-Brinson Combinations

As discussed in Ground 1A, Bates’s search engine may return search results missing search terms. POSAs knew, however, that users may want results that include a particular term, and therefore it was conventional for “search engines” to “support[] ‘include’...Boolean operators,” which required search results to include a search term(s). EX1035, [0009]; *see also* EX1036, [0024]; Bederson-Decl., ¶208.

Brinson’s search-engine GUI includes a user-friendly way—*i.e.*, user-selectable GUI elements—to indicate that a search term is “required” so that the results must include the term. Brinson, [0045]; *see also* FIGS. 16 & 18, [0069]-[0071], [0073]; Bederson-Decl., ¶209.

In view of Brinson, POSAs had reason to augment Bates’s search-engine interface in Bates-alone and Bates-Bhagat to include user-selectable GUI elements to designate a search term as required. Bederson-Decl., ¶210. Doing so would have also been applying aspects of Brinson’s known GUI elements for making a search term required, to a known search-engine interface ready for the improvement, to yield the predictable result of Bates’s interface allowing users to designate a search term as required. *KSR*, 550 U.S. at 417. Bederson-Decl., ¶217. Adding Brinson’s functionality to Bates would have furthered Bates’s goal of providing an interface that allows a user to “form an effective picture of the sources found by the search

engine” (Bates, [0009]), by allowing users to refine their initial searches to eliminate irrelevant results. Bederson-Decl., ¶217.

One obvious way to apply Brinson’s teachings to Bates-alone and Bates-Bhagat would have been to make the individual search terms presented next to each search result selectable so that an individual term’s weight could be designated. Bederson-Decl., ¶211. This implementation would have been similar to how Brinson’s Figure 18 example allows individual terms presented next to individual search results to be selected and designated as required. Brinson, [0073]; Bederson-Decl., ¶¶211-218 (citing additional examples).

A known technique for implementing what Brinson describes would have applied the “required”-term designation to already-identified search results (rather than execute an entirely new search), thereby causing the system to display an updated set of search results by removing, from the already-identified search results, references to webpages that are missing one or more terms from the user’s query. Bederson-Decl., ¶219. For example, Fowler (EX1081) corroborates POSAs’ knowledge of a “sifting operation” for a search engine in which—after conducting an initial search—a user can designate keywords as “include” (*i.e.*, required) and the sifting operation will exclude results that are missing the term, without running a new search. Fowler, FIGS. 1-2, [0022], [0038]-[0041]. Stonehocker (EX1082) similarly corroborates the known technique of providing an option to exclude results

that are missing a required term from already-identified search results. Stonehocker, FIG. 6, [0005], [0041]-[0043]. Bederson-Decl., ¶¶220-221. Beyond being a routine, known design choice, this implementation would have beneficially avoided the need to re-run an entire search, which would require additional time and server computations. Bederson-Decl., ¶219.

The above-described implementation would use the same Bates-alone and Bates-Bhagat interface illustrated previously except the text of the search terms in each search-result group would be selectable so each term can be designated as “required.” Bederson-Decl., ¶222.

POSAs would have reasonably expected success because it required only ordinary programming skill to add the weight-selecting aspects of Brinson’s GUI elements (e.g., selectable text) to the search engines of the Ground 1A combinations. Bederson-Decl., ¶223.

C. Mapping to Claims

1. Claim 9, 22

Claims 9 and 22 depend from claims 1 and 14, respectively. Ground 1C’s combinations build on Ground 1A’s combinations (Bates-alone and Bates-Bhagat) and meet claims 1 and 14 for the same reasons Ground 1A’s combinations do. *Supra* Ground 1A; Bederson-Decl., ¶224.

Claims 9 and 22 add the *selectable-filtering-function* limitation to claims 1 and 14. As discussed above, POSAs had motivation to augment Ground 1A’s combinations (Bates-alone and Bates-Bhagat) to include, based on Brinson, user-selectable GUI elements (e.g., clickable search-term text) for designating a search term as “required.” Bederson-Decl., ¶225.

In Ground 1C’s combinations, if the **missing** search term in the *referenced webpage*—i.e., a search term displayed in gray and/or strikethrough font—is designated as **required**, then that action *causes the referenced webpage...missing the...search term...to be removed* from the interface, because that referenced webpage lacks the now-required term. Bederson-Decl., ¶226. Ground 1C’s combinations thus meet the *selectable-filtering-function* limitation.

Ground 1C’s combinations would have included hardware and/or software to implement the above-discussed filtering function—i.e., *a filtering module*, as recited in claim 22. Bates, [0037]; Brinson, [0028]; Bederson-Decl., ¶227 (citing EX1061, [0073]).

If claims 9 and 22 require the search results to be updated in response to a single click by the user, that would have been obvious as a simple, beneficial design option for user convenience of, e.g., to achieve the benefit of not requiring the user to press multiple filter buttons to update search results. Bederson-Decl., ¶¶228-235 (citing Bhagat, FIG. 2, 9:1-16; Mills, 6:53-58; EX1031, [0042]; EX1068, [0196]).

IX. GROUND 1D: THE GROUND 1A COMBINATIONS IN VIEW OF MEHTA RENDER OBVIOUS CLAIMS 10-11 AND 23-24

Ground 1D challenges dependent claims 10 and 23 (and their dependent claims 11 and 24), which require the search-results webpage to include *one or more sponsored links related to...the search term elements* (hereinafter “the *sponsored-links* limitation”).

A. Mehta (EX1008)

Mehta explains that advertisers “lure a consumer to the advertiser’s website...by strategically placing [an] advertisement in [a] search results webpage.” Mehta, [0005]. Mehta says “advertisers define their advertisements based on one or more keywords that they believe will be used by consumers searching for products/services.” *Id.* “The search engine” “searches an ad inventory to determine if the [consumer’s] keywords match keywords that define an advertisement” and “the relevant advertisement[s]” — “called *Sponsored links* or sponsored advertisements” — will “appear next to or above the search results webpage.” *Id.*

Mehta’s Figure 3 (highlighted below) depicts a search-result webpage with “sponsored advertisements,” *i.e.*, “Sponsored links” (red), displayed “along with a plurality of search results.” Mehta, [0033], [0005]. As seen below, the webpage includes both “sponsored advertisements that match the search parameters,” *i.e.*, the user’s initial search query, as well as the search results that match the query. *Id.* Bederson-Decl., ¶¶236-241.

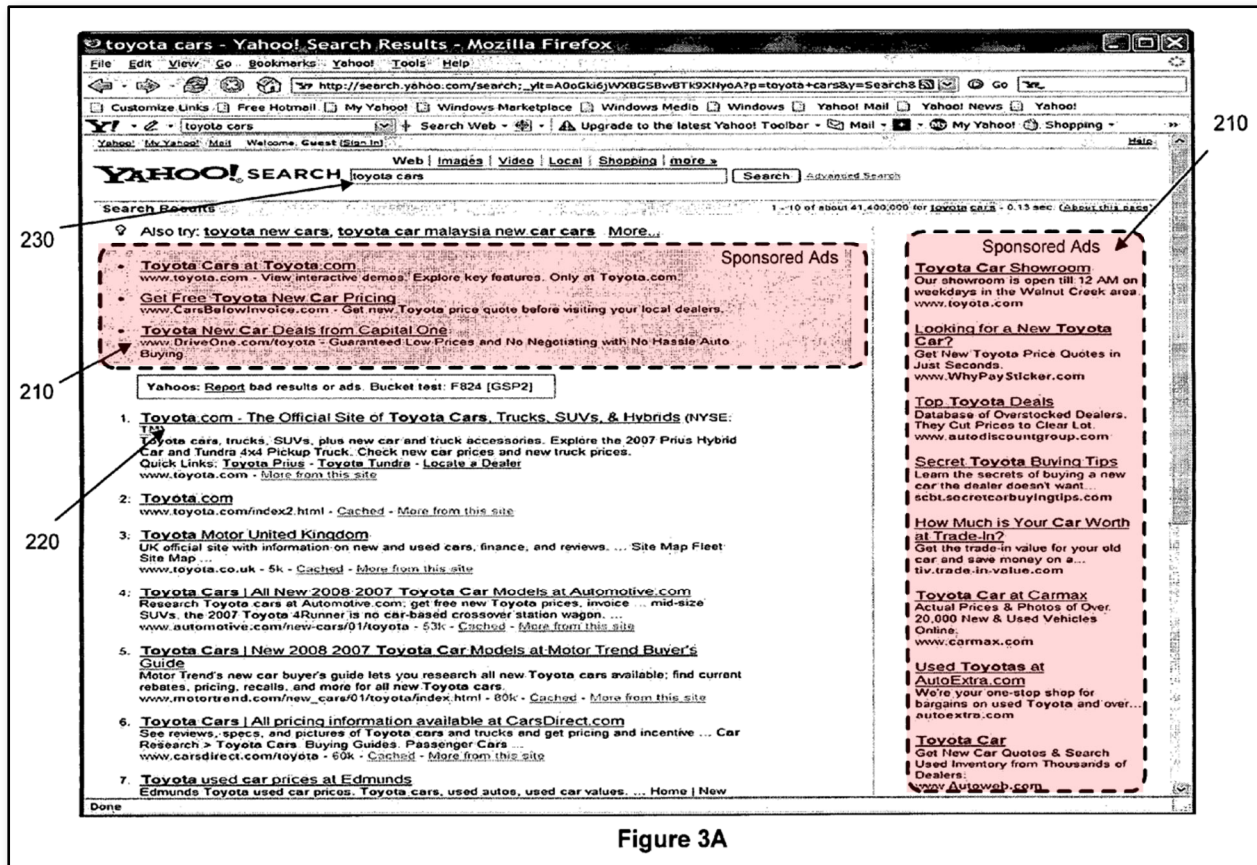


Figure 3A

B. The Bates-Mehta and Bates-Bhagat-Mehta Combinations

Mehta demonstrates that displaying “relevant advertisement[s]” as “[s]ponsored links” alongside search results was known. Mehta, [0005]. The ’001 patent recognizes this fact too. EX1001, 2:51-55, FIG. 1. And POSAs knew that search-engine providers displayed sponsored links to generate revenue. Bederson-Decl., ¶242 (citing corroborating EX1015, [0004]; EX1016, [0006]).

In view of Mehta, POSAs would have had a motivation—*i.e.*, to generate revenue—to implement the combinations set forth in Ground 1A (Bates-alone and Bates-Bhagat) such that the search-engine interface in each combination (*i.e.*, an

interface like the one depicted in Bates’s Figure 2B) displays sponsored links related to the user’s search terms. Bederson-Decl., ¶243.

These implementations would have been the use of a known technique (*i.e.*, search-term-based sponsored links) to improve similar systems (*i.e.*, search engines) in the same way (*i.e.*, allowing for the search-engine provider to generate revenue). Bederson-Decl., ¶244. POSAs would have expected success in implementing the combinations because it would have required only ordinary programming skill to include Mehta’s conventional functionality into Bates’s user interface. *Id.*

C. Mapping to Claims

1. Claims 10, 23

Claims 10 and 23 depend from independent claims 1 and 14, respectively. Ground 1D’s combination builds on Ground 1A’s combinations and meet independent claims 1 and 14 for the same reasons that Ground 1A’s combinations do. *Supra* Ground 1B; Bederson-Decl., ¶245.

Claims 10 and 23 add the *sponsored-links* limitation. As discussed above, Mehta provides POSAs with motivation to augment Ground 1A’s combinations to display “[s]ponsored links” related to the user’s search terms. Mehta, [0005]-[0006]. Bederson-Decl., ¶246. Ground 1D’s combinations then meet the *sponsored-links* limitation. Bederson-Decl., ¶246.

Based on Mehta, the Ground 1D’s combinations include “a rendering rules *module* 340 used” “to determine where and how the advertisement[links] are to be rendered [*displayed*] on the search results webpage” (Mehta, [0030], [0005])—*i.e.*, *an advertising module*, as recited in claim 23. Bederson-Decl., ¶¶247-248.

2. Claims 11, 24

Dependent claims 11 and 24 depend from dependent claims 10 and 23, respectively, and further require the sponsored link(s) to be *related to the...search term element missing in the Internet search result’s referenced webpage*.

Mehta’s *sponsored links* discussed above (§IX.C.1) are “based on one or more keywords that the [advertisers] believe will be used by consumers” and selected when user-supplied “keywords match keywords that define an advertisement.” Mehta, [0005]. In other words, the advertisements are triggered by the input search string, not just the search results. Thus, the *sponsored links* displayed by Ground 1D’s combinations may be *related to all* user-supplied search terms, even if *at least one search term element is missing in one of the search results’ referenced webpages*. Bederson-Decl., ¶¶249-250.

POSAs would also want *sponsored links* related to all user-supplied search-term elements, even if *at least one* were *missing* in a non-sponsored link, because those are the terms the user identified as being of interest. Bederson-Decl., ¶¶251-253 (citing EX1040, 1:38-48).

X. GROUND 2A: WANG-MILLS RENDERS OBVIOUS CLAIMS 1-4, 7-8, 12-17, 20-21, AND 25-26

A. Wang (EX1005)

Wang concerns keyword-based search engines. Wang, [0001], [0014], [0016]. Wang says “[m]ost keyword-based search engines operate on the assumption that the user intends to only find documents that contain all of the [user-selected] search terms.” Wang, [0002]. Wang calls this “and-based searching.” *Id.*; Bederson-Decl., ¶¶254-255 (discussing Boolean “AND” operator).

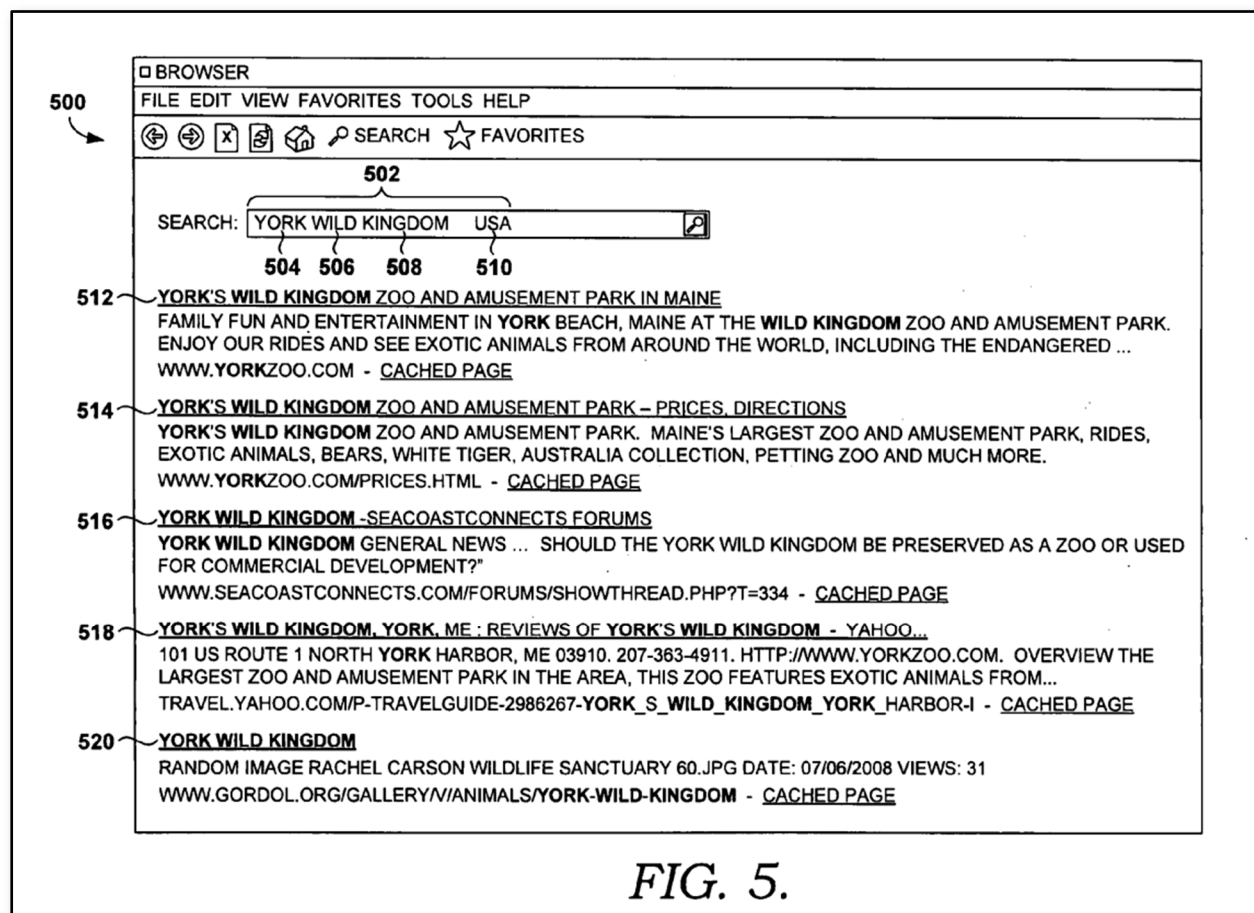
A problem with “and-based searching” occurs when a user “over-specifies a query by including unnecessary terms.” Wang, [0002]. When this happens, relevant search results “missing one or more of the extra terms will not be located.” *Id.* For example, if a user enters a four-keyword query, the search engine “will not return documents that do not include all four keywords” even though there may be relevant webpages that hit only some of those keywords.⁵ Wang, [0001]-[0002]; Bederson-Decl., ¶256.

To reduce the risk of excluding potentially relevant documents, Wang teaches “relaxed searching” where a search engine identifies search results “that include only a subset of the keywords submitted by a user.” Wang, [0014], [0031]. “The subset of keywords equals the total number of keywords (N) minus a given number (K) less

⁵ Wang’s “documents” include Internet webpages. Wang, [0030].

than N.” Wang, [0014]. “For example, if a query” contained four keywords “and K was equal to 1, documents would only have to include any three of the [] words to be included on the results list.” Wang, [0014], [0031].

Wang’s Figure 5 (below) illustrates “a search-results list from a search engine performing relaxed searching.” Wang, [0053]. In the example, a user submitted a four-word query (“york,” “wild,” “kingdom,” and “USA”), and the search engine “returned a list of results that contained N-K keywords” where N=4 and K=1. *Id.* “The resulting documents thus have at least 3 of the 4 keywords.” *Id.*; Bederson-Decl., ¶¶257-258.



As shown above, Wang emphasizes (in bold) search terms that ***appear*** in each search-result grouping, explicitly informing the user that those search terms are present in the corresponding search result and ***suggesting*** which search term(s) is/are missing. Bederson-Decl., ¶¶259-262. POSAs would have been motivated to extend Wang by making explicit which search terms are missing. Bederson-Decl., ¶263.

B. Mills (EX1006)

Mills relates to keyword searching. Mills, 1:39-45, 3:26-28, 4:16-19. Mills discusses examples of searching “to identify...products,” but says this is just “one example” and the described techniques are applicable more generally, such as “to perform a web search.” Mills, 2:40-44, 4:16-19.

Like Wang, Mills observes a problem when a “customer...enter[s] a word search that has too many terms”: the search engine may return few (if any) results because of the “overly constrained” search parameters. Mills, 1:8-11; *see also id.* 3:29-56.

To address this problem, Mills’s search engine “detects [that] a query” “generated from a search string fail[ed] to identify at least a predefined threshold number of items,” *e.g.*, at least 10 “items,” which in a web-search embodiment would be search results from a “web search.” Mills, 4:39-47; *see also id.*, 2:40-44, 4:16-19; Bederson-Decl., ¶¶264-267. When this happens, “the search engine...generate[s] one or more altered versions of the search string by making

various modifications to the search string.” Mills, 4:48-53. Mills’s “altered” search strings can be generated by removing one or more keywords from the original search string. Mills, 5:60-63.

Figure 2 (annotated below) illustrates an interface for Mills’s search engine. Mills, 1:25-27. As seen below, the user inputs a search string into a search box. Mills, 6:29-33. The example search string—“acme rolling tool organizer”—is highlighted blue below. Bederson-Decl., ¶¶267-268.

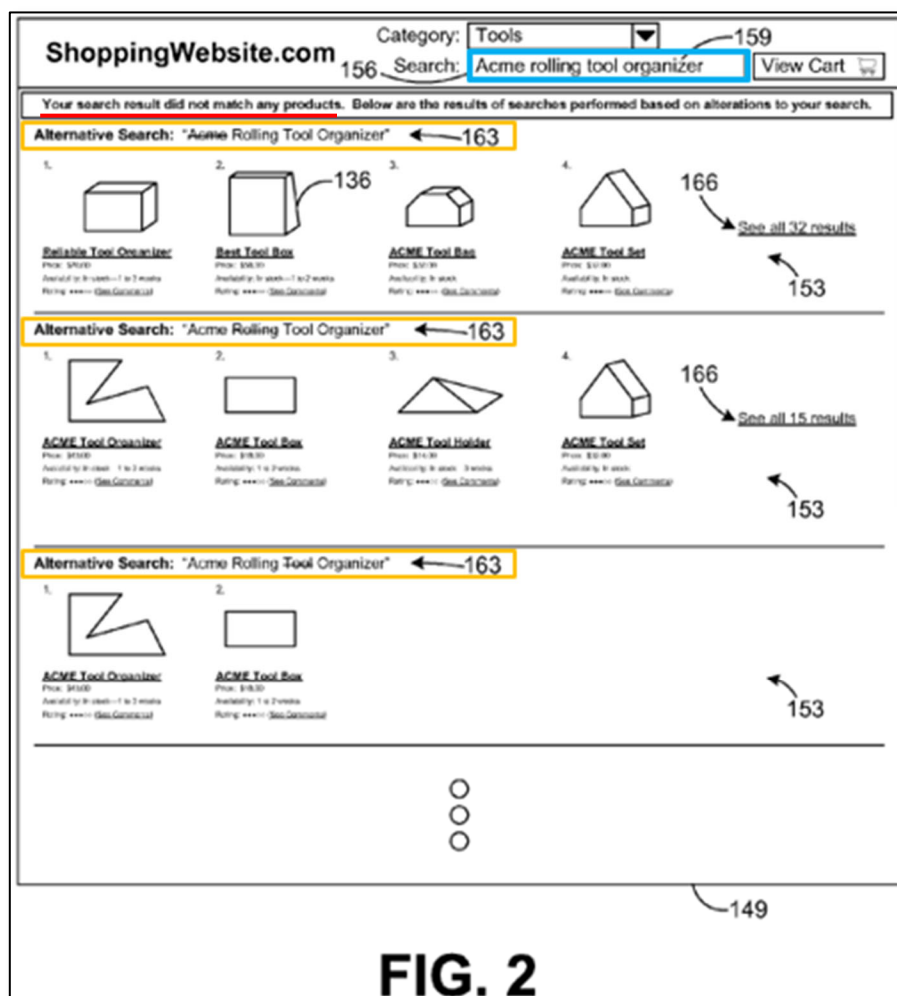


FIG. 2

In this example, the four-word search string “does not provide any results for a search” (see notification underlined red above). Mills, 6:33-36. Because no results were found for the original search string, the search engine “generates a plurality of altered versions of the search string 159 that are displayed as altered search strings 163.” Mills, 6:38-46. Each of the three altered search strings (orange boxes above) is the original four-word search string with one word removed. For example, the second altered search string is “Acme ~~Rolling~~ Tool Organizer,” which indicates that the original search string was altered by removing the word “Rolling.” Bederson-Decl., ¶269.

“Each altered search string is graphically associated with a group 153 of items identified based upon a second query generated from the altered search string 163 itself.” Mills, 6:43-46. For example, the second resulting “group 153” identifies results that matched the three-word search “acme tool organizer.” Bederson-Decl., ¶270. The strikethrough annotation (“~~Rolling~~”) indicates that in each result in the second group the search engine found three search terms – “Acme,” “Tool,” and “Organizer” – but did *not* find “Rolling” in any of those results because, otherwise, the original search *would* have found products that matched all four terms. *Id.*

Mills ensures that a “user advantageously receives results...even though the search string 159 that they entered would result in no identified items” and “educate[s] users...as they can compare and contrast” the results of their original

search with the results from various altered searches. Mills, 7:32-40. Bederson-Decl., ¶¶271-276.

C. The Wang-Mills Combination

In view of Mills, POSAs had reason to modify Wang’s interface to annotate each search result with the user’s keywords and to identify the keyword(s) (if any) missing in each corresponding webpage. Bederson-Decl., ¶277.

Wang and Mills relate to a common problem: preparing search results based on over-constrained search strings. Bederson-Decl., ¶278. They address that problem in similar ways: displaying search results of altered (and broadened) versions of the user’s original search string (*e.g.*, with one of the user’s original keywords removed). *Id.*

Mills, however, recognizes a potential problem: “irrelevant items” “may be included in a search result generated based upon part [*i.e.*, a subset] of [an] entire search string.” Mills, 3:61-64. That may cause a user to “lose faith that” the search engine “will reveal relevant results,” which may “discourage further user participation.” Mills, 3:64-4:4. Bederson-Decl., ¶279.

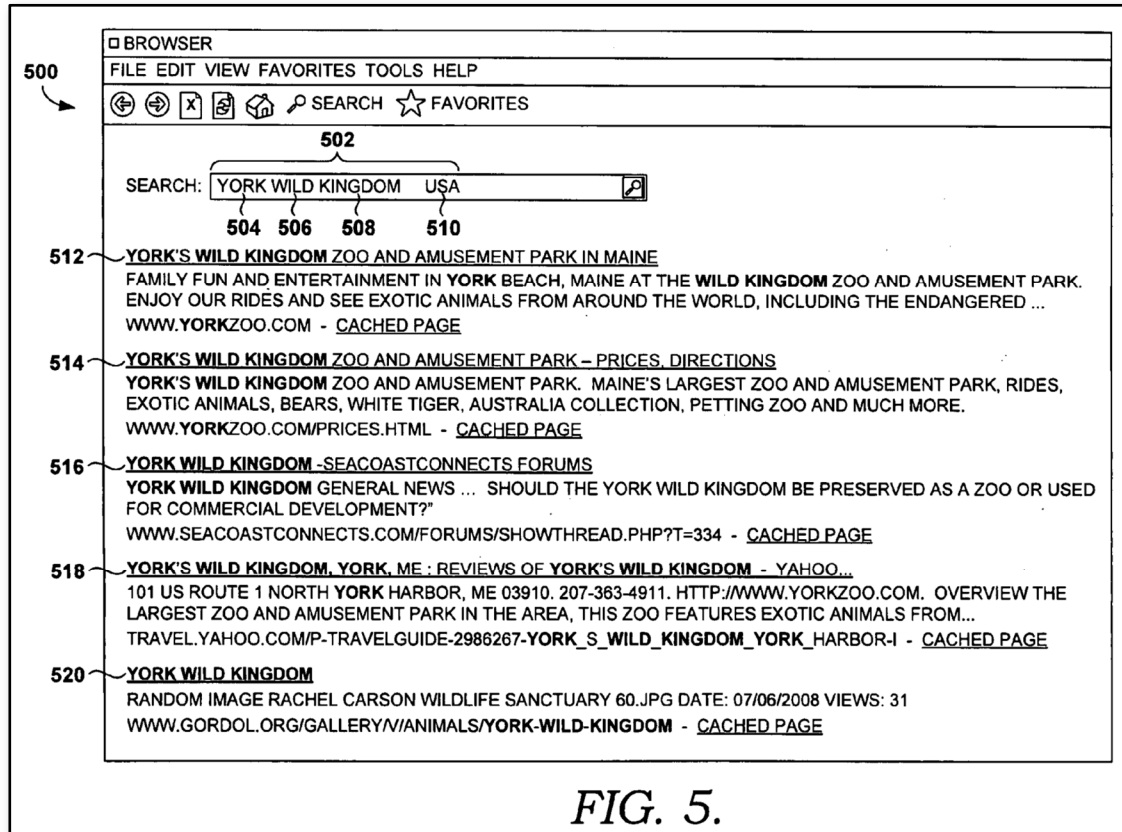
To mitigate that problem, Mills annotates search results by “graphically associat[ing],” *i.e.*, annotating, the search results with the altered search strings that yielded those results. Mills, 6:43-46. Mills identifies at least two principal benefits to its annotations. Bederson-Decl., ¶280.

First, displaying search results “along with the associated altered search strings 163 allows a user to see how other permutations of the original search string” yielded results whereas the original search string did not. Mills, 7:18-23. This “disabuse[s]” the user of the belief that there are no search results relevant to the user’s original search string. Mills, 7:23-25. Bederson-Decl., ¶281.

Second, because “the altered search strings 163 are displayed in association with” their respective search results, “a user can see how the alteration...may have resulted in” results “that are not particularly relevant” to the user’s original search string. Mills, 7:25-31. That is, the annotations inform the user what term was removed to identify a result and thus what term is missing, which may change the result’s relevance to the user. Bederson-Decl., ¶282; *see also* Mills 7:35-40 (annotations “serve[] to educate users”), 5:18-28 (annotations help users identify “more relevant” results).

POSAs would have recognized that Mills’s search-term annotations are applicable to any search system that displays results that can match only a subset of a user’s search terms. As discussed above, Wang is such a system and thus suffers the potential problems Mills identified: some of Wang’s search results might match only a subset of user-supplied search terms but (without Mills) Wang does not indicate which search terms have been removed for each broadened search result. Bederson-Decl., ¶283.

Wang's Figure 5 example (below) includes four keywords—YORK WILD KINGDOM USA. Wang says “[t]he resulting documents...have at least 3 of the 4 keywords.” Wang, [0053]. Each search-result grouping includes in **bold** “YORK,” “WILD,” and “KINGDOM,” and thus each corresponding result clearly includes those keywords. Bederson-Decl., ¶284. However, it is unclear whether any result’s webpage also includes “USA” because even though “USA” is not displayed in the search-result grouping it could still be present somewhere in the webpage, (e.g., somewhere other than in the title, URL, or displayed excerpt). Wang, [0053] (“*As is shown*,...all [results] contain at least 3 of [the] keywords.”). Bederson-Decl., ¶¶260-261 (citing EX1055-EX1057).



Because it is unclear whether any un-displayed keyword is actually missing from each webpage (and, if so, which webpage(s)), POSAs would have recognized that Wang's system is ready for improvement via the above-described benefits of Mills's annotations (*e.g.*, helping the user ignore potentially irrelevant results), which would have been achieved in Wang's system by displaying the specific keywords that Wang used to identify each search result and crossing out keywords that are missing in the associated webpage. Bederson-Decl., ¶285. The combination would have thus been using a known technique (Mills's displayed altered search strings) to improve a similar device (Wang's search engine) in the same way (providing users with additional information that improves their searching experience). *Id.*; *KSR*, 550 U.S. at 417.

Using Wang's Figure 5 example, the interface in Wang-Mills would have displayed the altered search string adjacent to (or below) each search result, with a strikethrough applied to any term(s) missing from the corresponding search result. Bederson-Decl., ¶¶286-287. Including the annotations adjacent/below each search result is consistent with Wang's FIG. 5 which already bolds search terms present in each search result and would be consistent with how known search engines annotated search results. Bederson-Decl., ¶¶287-293 (citing, as examples of per-search-result annotations, EX1029, FIG. 3, 5:63-6:49; EX1043, FIGS. 7-9, 13:9-31; EX1044, FIG. 10, [0095]).

used in an altered query with each search result would have required only routine software programming skills. Bederson-Decl., ¶295; Mills, 10:26-45.

D. Mapping to Claims

1. Claim 1

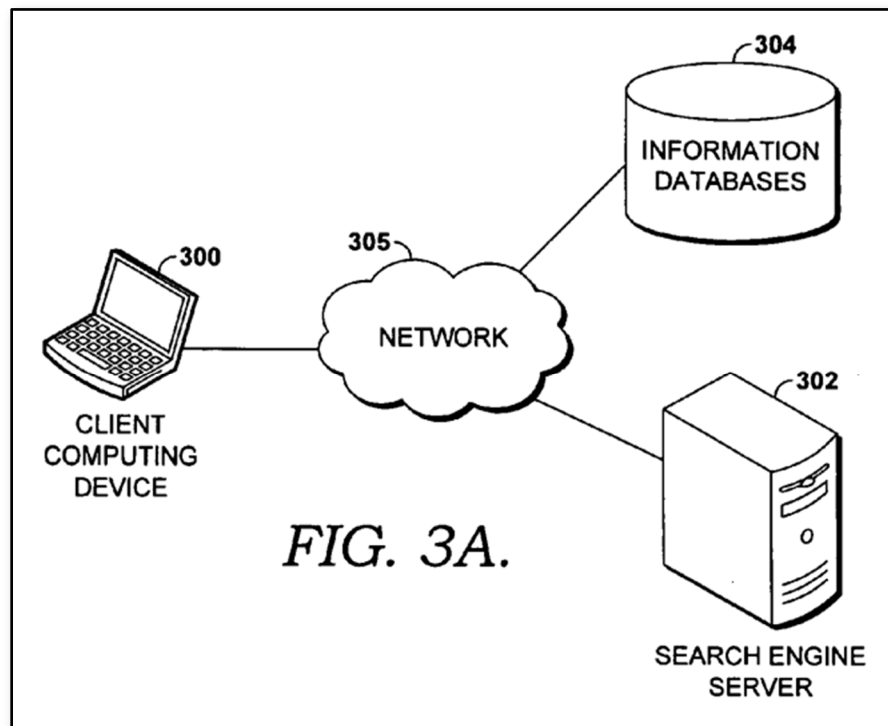
a. [1PRE]

Wang discloses *a method* “for performing relaxed searching on a search engine...connected to a network” (Wang, [0032], FIG. 4), *e.g.*, “the Internet” (Wang, [0030], FIG. 3A). Wang’s *Internet* “search engine” “creates a list of results for a search-engine query by identifying documents [*e.g.*, webpages] that include only a subset of the keywords [*search term elements*] submitted by *a user*” of the *search engine*. Wang, [0013]; *see also* [0035]. “Once the web pages are located, their URLs are transmitted back to the client computing device” “and displayed as hyperlinks” (*Internet search results*). Wang, [0035]; FIG. 5; Bederson-Decl., ¶¶296-297.

As discussed above (§X.C) and further below (§§X.D.1.f-g), Wang-Mills’s method *provides an annotation for the Internet search results displayed to a user to warn the user when the Internet search result’s referenced webpage is missing one or more of the search term elements supplied by the user*, wherein a missing term is displayed and annotated with a strikethrough. Bederson-Decl., ¶298.

b. [1A]

Wang's Figure 3A (below) shows the user's computing device "communicat[ing] with the search-engine server." Wang, [0038].



"[T]he user can submit keywords to the search engine, and the client computing device 300, in turn, transmits the keywords to the search engine server 302." Wang, [0039]. "[T]he search engine server 302 receives the query and parses the query into one or more keywords." Wang, [0040].

Thus, Wang's "keywords" are *received as search term elements supplied by a user of the Internet search engine from the user's computing device.* Wang, [0035], [0002], [0004]; *see also* Bederson-Decl., ¶¶299-301.

c. [1B]

Wang's "search engine server 302 receives the query and parses the query into one or more keywords" and "searches one or more inverted indexes for documents that contain" at least a subset of the "keywords" (*i.e.*, results are *based on the supplied search term elements*). Wang, [0040], FIG. 5 (search request 502).

Results identified using inverted indexes, as in Wang, are *Internet search results* because each "inverted index is prepared by web [*i.e.*, *Internet*] crawlers browsing documents stored in the information databases 304," which "may be hosting a web page comprising numerous online documents." Wang, [0041], [0035], [0016]; Bederson-Decl., ¶¶302-303.

Wang's Figure 5 (below) depicts "a web browser window 500 rendering a web site for the search engine" that is *generated by the search engine* (Wang, [0053]) and includes *Internet search results referencing webpages* that are "displayed as hyperlinks" (green) *on a search-results webpage* (red) *on the user's computing device* (Wang, [0035]). Bederson-Decl., ¶304.

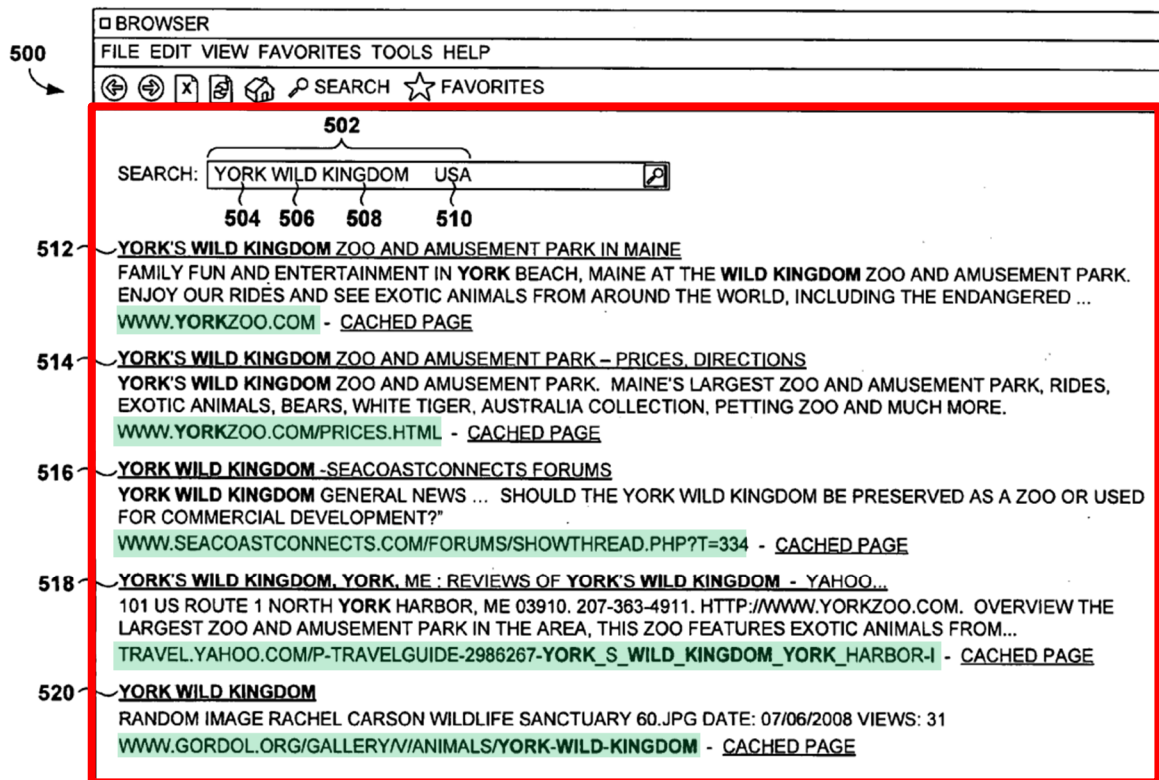
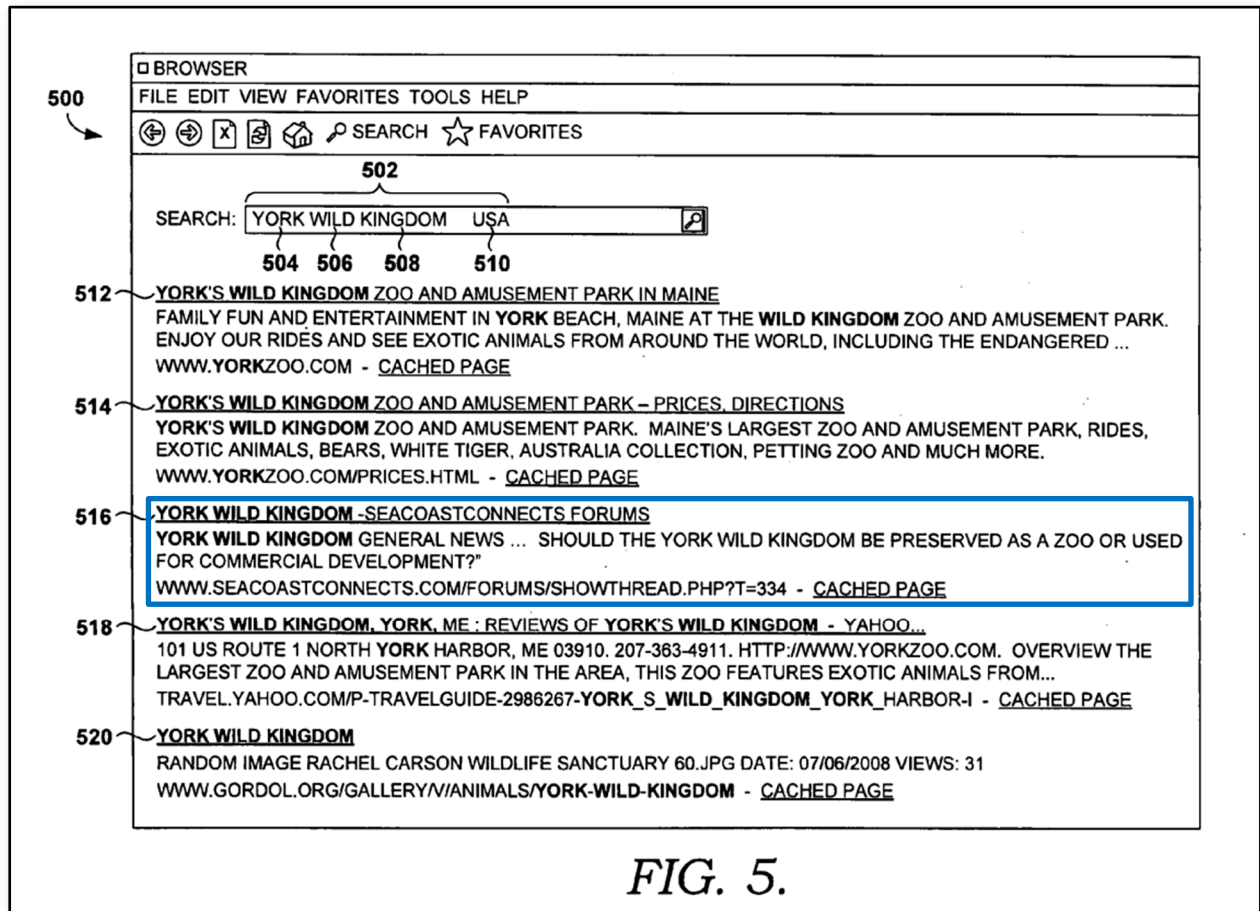


FIG. 5.

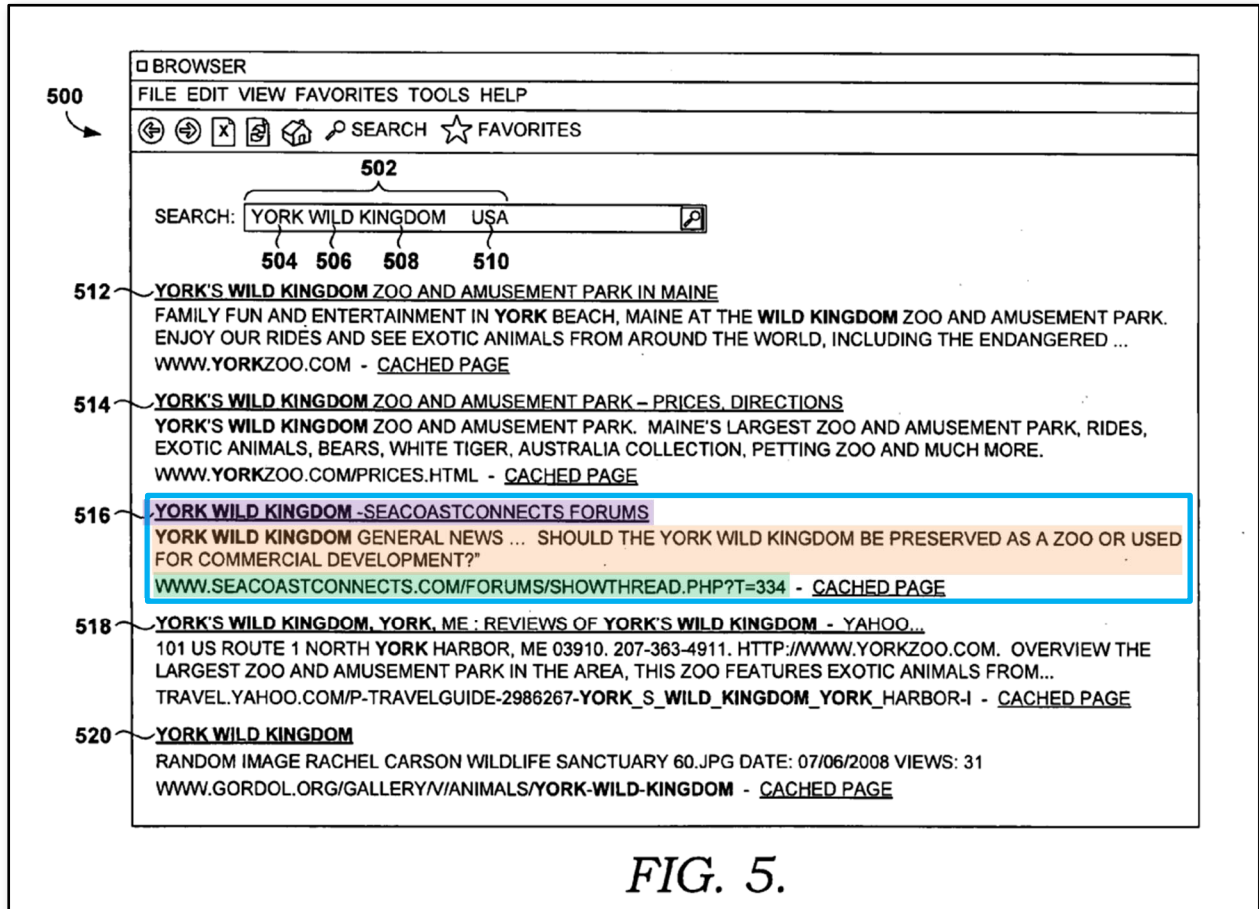
d. [1C]

Wang's Figure 5 (below) shows that each *Internet search result* discussed above (§X.D.1.c, [1B]) is *displayed on the search results webpage* as a distinct *search result grouping*, like the one highlighted with a blue box. Bederson-Decl., ¶305.



e. [1D]

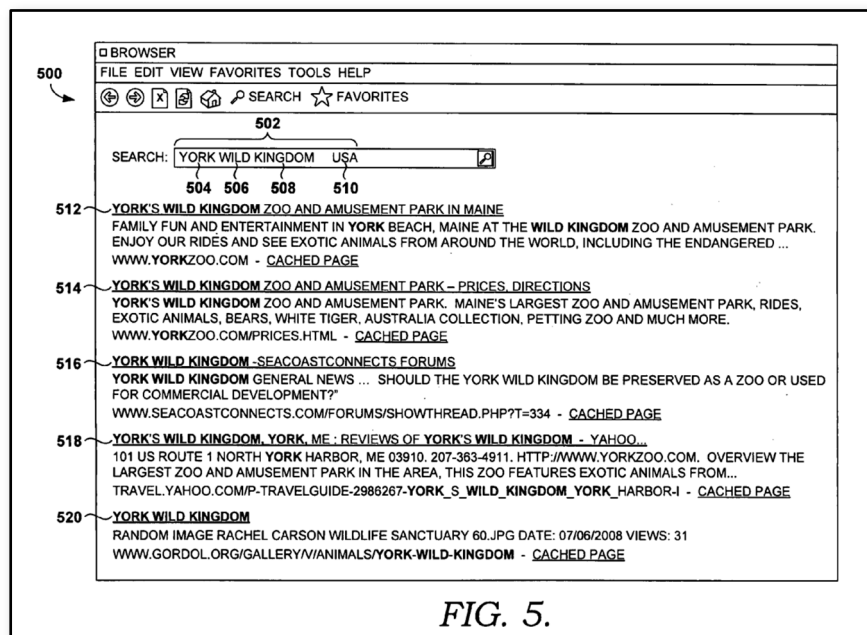
Wang's Figure 5 (below) shows that each *search result grouping comprises for the referenced webpage a title (purple), an Internet link with a URL (green), and an excerpt (orange)*. Wang, [0035]; Bederson-Decl., ¶306.



f. [1E]

In Wang-Mills, “web documents that have been known to contain at least a portion of the query’s keywords” “are identified” by the method and “transmitted back to the client computer device” “for presentation to the user.” Wang, [0052], [0035] (“Once the web pages are located, their URLs are transmitted back...and displayed as hyperlinks.”).

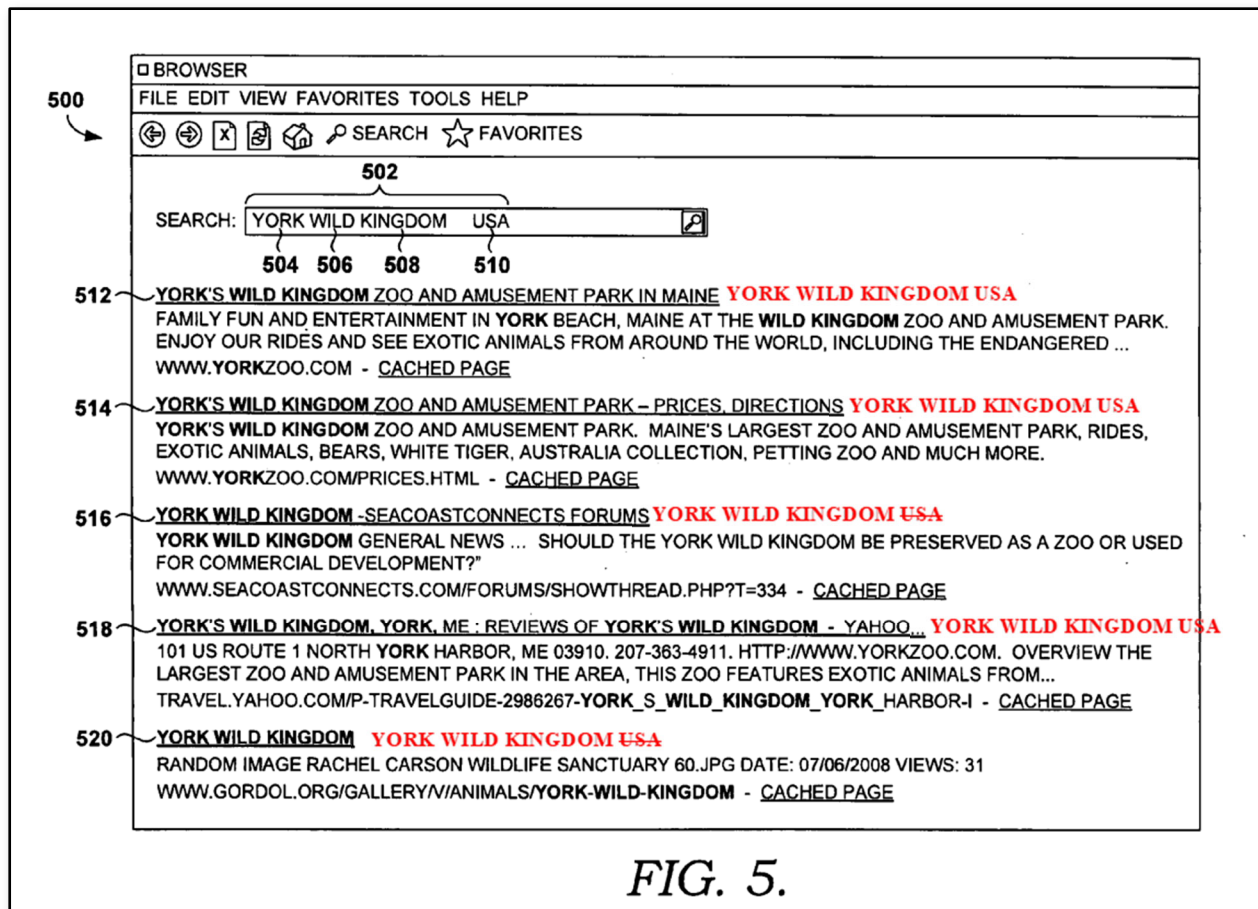
Wang’s Figure 5 (below) depicts “a web browser window 500 rendering a web site for the search engine” (*i.e.*, the search-results webpage). Wang, [0053]; Bederson-Decl., ¶¶307-308.



In this example, the “user submitted a search-engine query 502 with [four] keywords ‘york,’ ‘wild,’ ‘kingdom,’ and ‘USA.’” Wang, [0053]. Wang’s “relaxed search[]” identified “documents,” *i.e.*, websites, that “have at least 3 of the 4

keywords.” *Id.* POSAs understood each result shown above includes at least the search-term keywords “york,” “wild,” and “kingdom” because those keywords are bolded in each search result, but might not include “USA.” *Bederson-Decl.*, ¶309; *supra* §X.A.

As discussed above (§X.C) and illustrated based on Wang’s Figure 5 (annotated below), in Wang-Mills, the method augments Wang’s search results with the text of the search terms, based on Mills. *Bederson-Decl.*, ¶310.



In the Wang-Mills example above, the method *determines to generate an annotation* that includes a strikethrough *if at least one search term element is missing in the Internet search result's referenced webpage* (e.g., an annotation that writes “USA” as “~~USA~~,” as in results 516 and 520). *Id.*

g. [1F]

As illustrated above (§X.D.1.f, [1E]), Wang-Mills's annotation *is comprised of a text representing the at least one search term element that is missing in the Internet search result's referenced webpage* (e.g., “~~USA~~” in the annotations for results 516 and 520 above). Bederson-Decl., ¶311.

h. [1G]

POSAs understood the display location of the annotation for a search result grouping was a design choice. Bederson-Decl., ¶312 (citing EX1029, FIG. 3; EX1043, FIG. 7).

Wang-Mills's annotation are based on Mills's FIG. 2 (annotated below), which displays search term annotations 163 (red) adjacent to and/or within a grouping of search results (blue). This is also consistent with Wang's Figure 5, which bolds search terms present within each search-result grouping.

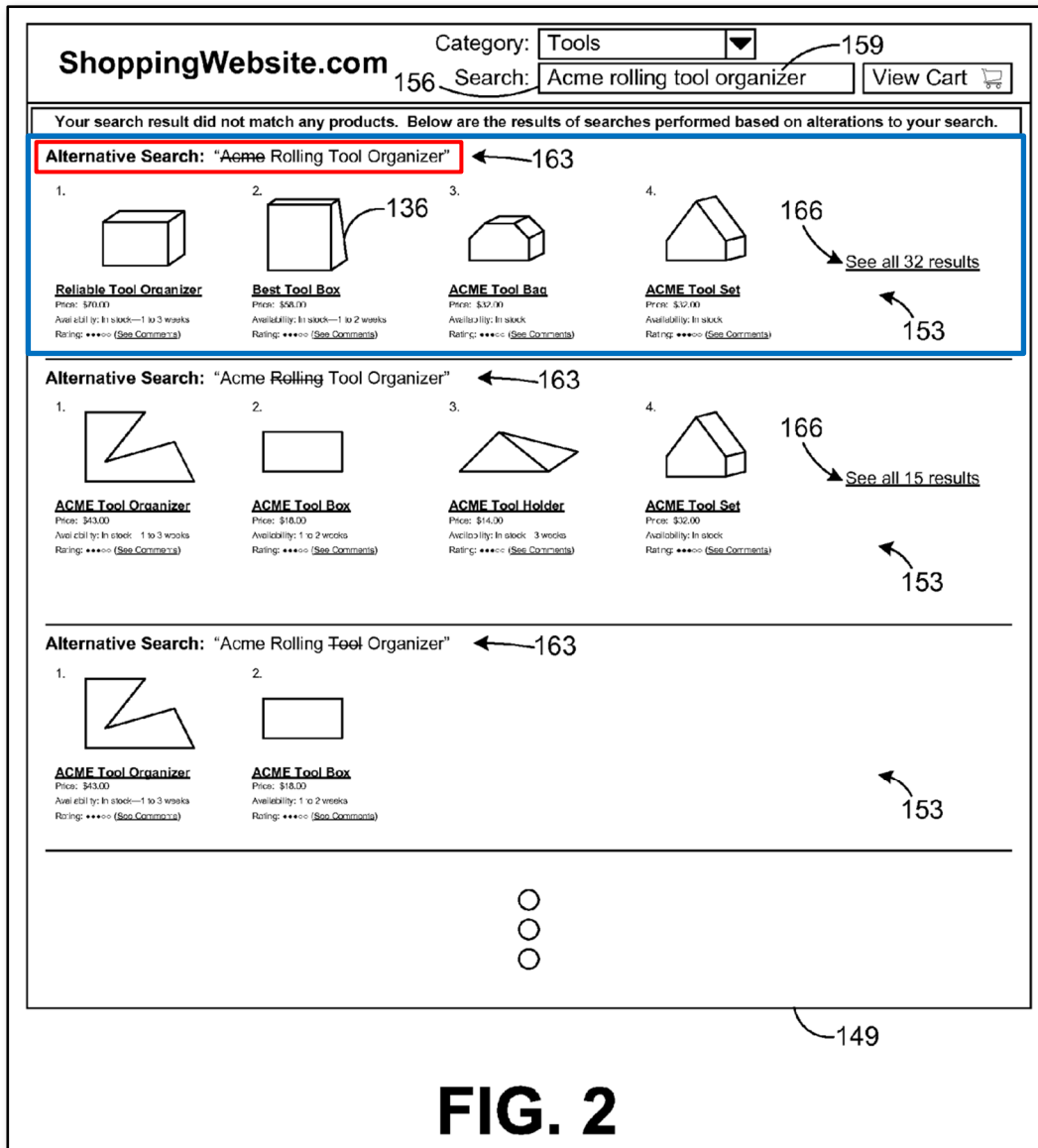
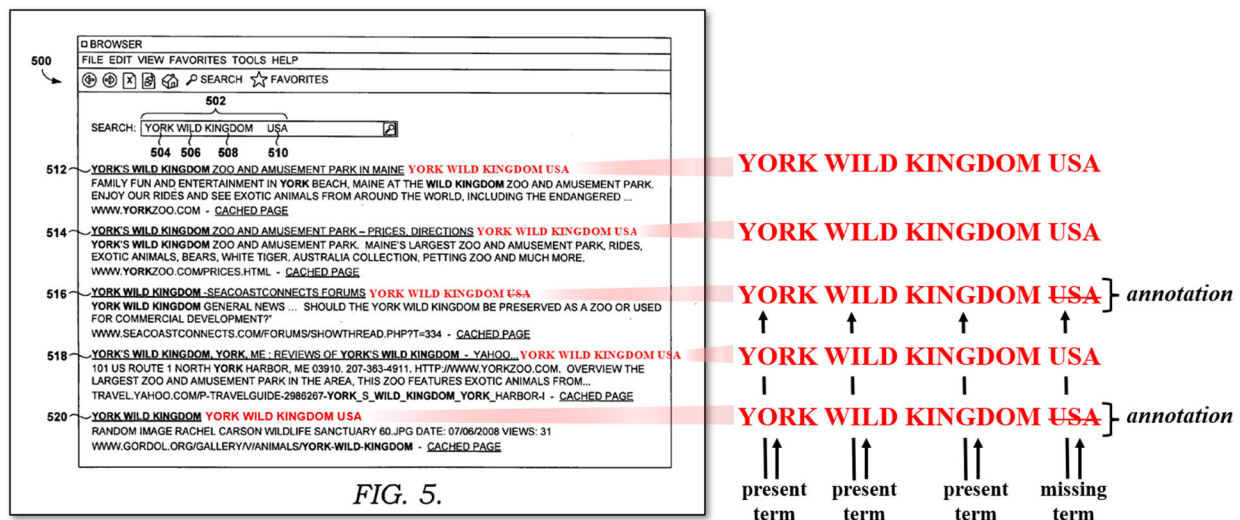


FIG. 2

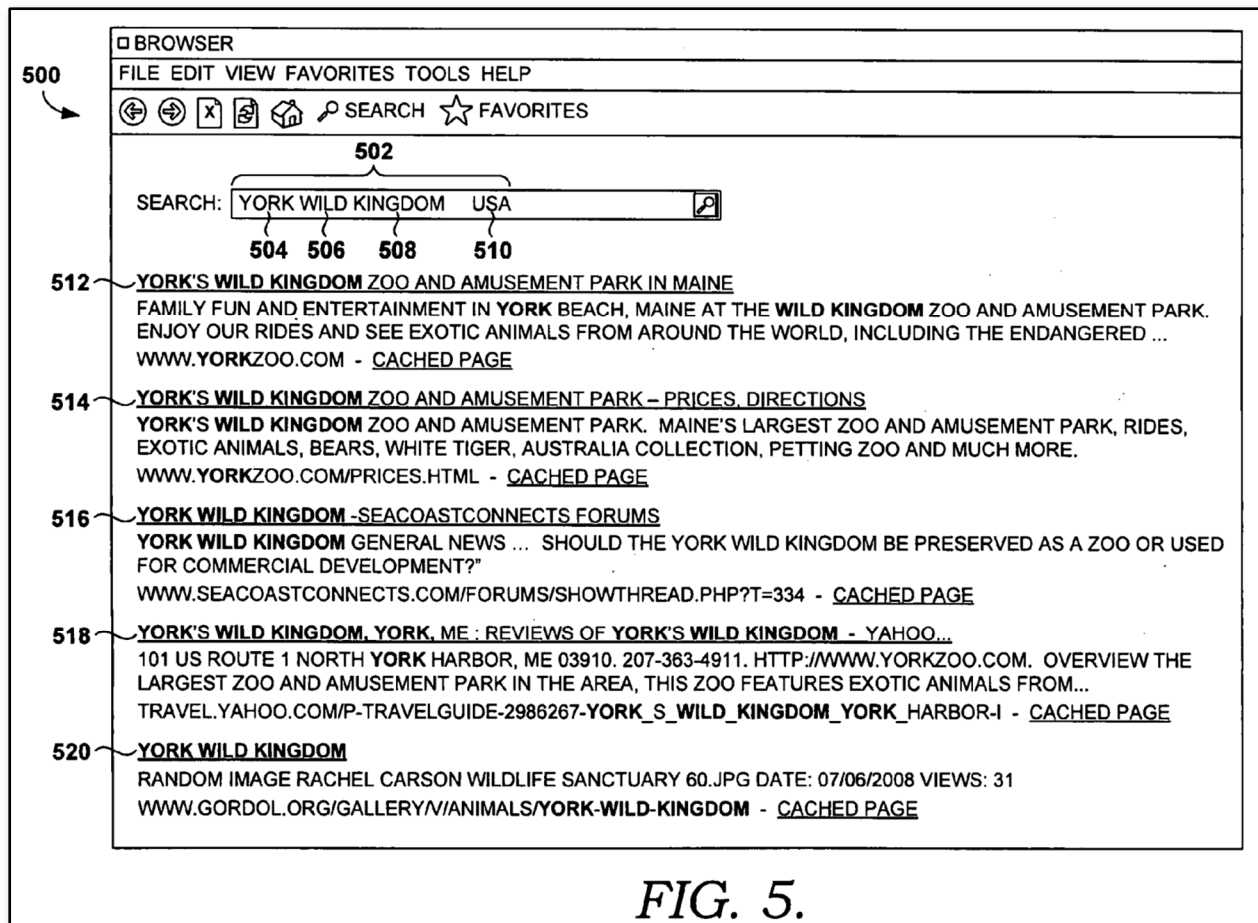
Consistent with Mills and Wang, and as the Wang-Mills example illustrated above shows (§X.D.1.f, [1E]), Wang-Mills *causes the annotation to be displayed adjacent to and/or within the Internet search result's search result grouping, e.g., placed next to the webpage title, to help ensure that a searcher associates a search result with its annotation.* Bederson-Decl., ¶¶313-315.

2. Claim 2

As shown in the Wang-Mills illustration below and discussed above (§§X.D.1.f-g), based on Mills, Wang-Mills’s annotations comprise the text representing each search term element, where terms *present in the referenced webpage* are displayed *without* a strikethrough, which meets claim 2. Bederson-Decl., ¶¶316-317.



Based on Wang, Wang-Mills also bolds search term elements *present in the referenced webpage* (e.g., “WILD” and “KINGDOM” in the first-referenced webpage 512), which meets Claim 2 under the claim scope Patent Owner alleges in litigation. See Wang’s FIG. 5 (highlighted below); Bederson-Decl., ¶318 (citing EX1064, 126-128).



3. Claim 3

Based on Wang, Wang-Mills's *Internet search engine* "server is configured to receive the search-engine query from the client computing device" and "determine whether any documents contain the subset of keywords." Wang, [0005]. Based on Mills, Wang-Mills's search engine server would also determine whether and how to annotate search results. Mills, 2:6-7 ("Various applications and/or engines are executed in the server...."), 4:48-53 ("[S]earch engine...generate[s] one or more altered versions of the search string by making various modifications to the search string...."), FIG. 3. It would have been obvious as a conventional design choice for

claim 1's method to be *performed by Wang-Mills's Internet search engine*.
Bederson-Decl., ¶¶319-321.

4. Claim 4

Wang says the user's computing device and search engine do not have to be "separate computer units" (Wang, [0042]), which suggests and renders obvious having Wang-Mills's method *performed on the user's computing device*, where a *plug-in or a software program* would have been the conventional way to do so. See Bates, [0025], cl. 1. Bederson-Decl., ¶322 (citing EX1063).

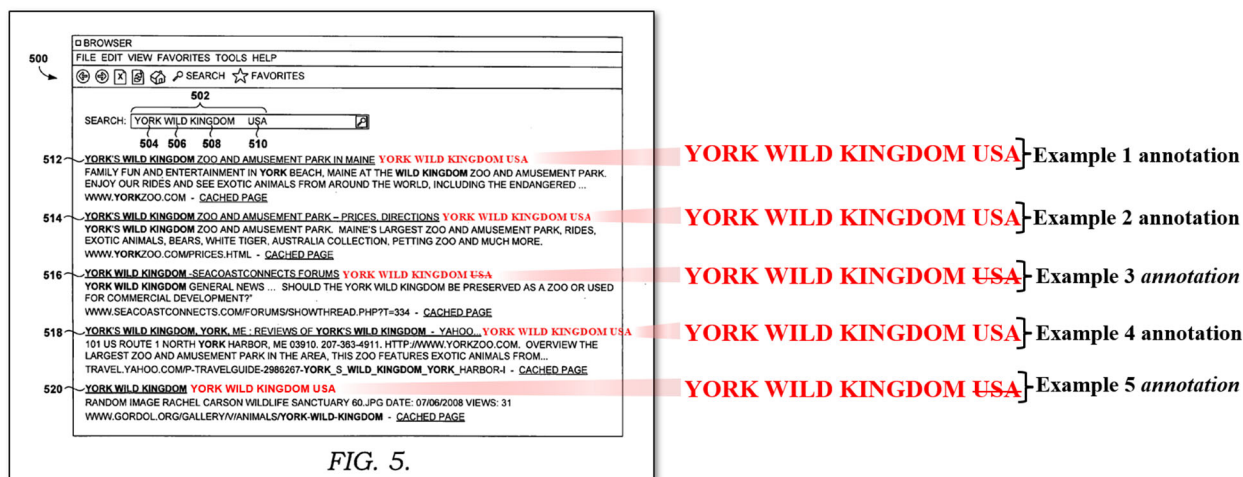
5. Claim 7

As discussed above (§VI.D.5; Ground 1A), claim 7 is met when the method does not generate "*the annotation*" that meets limitations [1E]-[1F], and may instead generate a different annotation. As discussed above, "*the annotation*" that meets limitations [1E]-[1F] in Wang-Mills is an annotation that includes text of *missing* search terms written with a strikethrough format. *Supra* §§X.D.1.f-g.

If all supplied search term elements are present in the Internet search result's referenced webpage, Wang-Mills will not generate "*the annotation*" that meets limitations [1E]-[1F], and will instead generate a different annotation, *i.e.*, an annotation in which all search terms will be written *without* a strikethrough because all those terms appear in a particular search-result webpage. Bederson-Decl., ¶¶323-324. Also, POSAs would have known that another design choice for implementing

Wang-Mills would have been to generate *no* annotation when all terms are included in the search result. Bederson-Decl., ¶326. This alternative implementation is consistent with Wang’s teaching that search-engine users already assumed that all terms would be present in a search result. *Id.*; Wang, [0002].

In the example below, Wang-Mills’s method does not generate “*the annotation*” of limitations [1E]-[1F] (the third or fifth *annotation* in which “USA” is struck through) for the *referenced webpages* in the first, second, and fourth search groupings 512, 514, and 520. Bederson-Decl., ¶325. Wang-Mills thus meets claim 7.



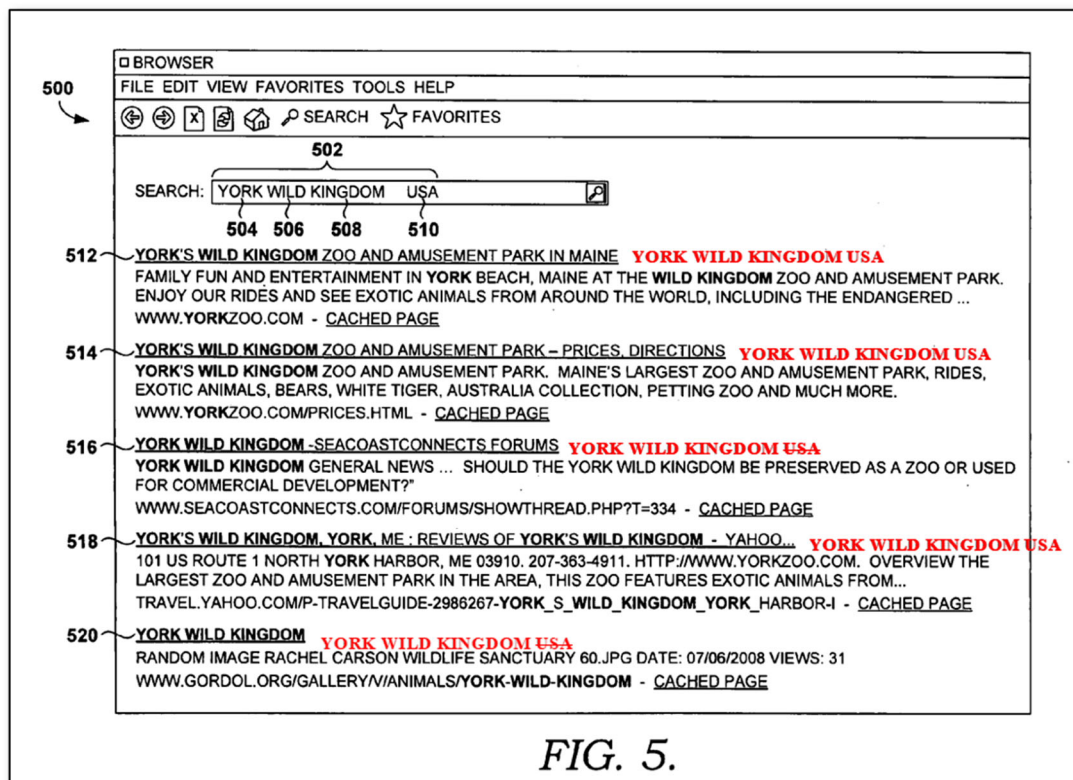
6. Claim 8

As discussed above (§X.D.1.c, [1B]), a *search term element* in Wang-Mills is considered present in a webpage if the webpage contains the search term element itself. Wang, [0004], [0014]. Bederson-Decl., ¶327.

For the reasons discussed above (§VI.D.6; Ground 1A, **claim 8**), it would have also been beneficial, conventional, and obvious for a search engine (like Wang-Mills's) to consider a search term to be present if *a synonym or a misspelled version of the search term element* is present. Bederson-Decl., ¶328 (citing EX1059-EX1060).

7. Claim 12

Wang-Mills's *annotation comprises text representing at least one search term element* (e.g., "USA") with a strikethrough, which is a *format where a font representing the text has been altered, the text is shown with one or more lines merged with the text and/or the text is shown with one or more lines superimposed thereupon*. Bederson-Decl., ¶329.



8. Claim 13

POSAs would have understood that Wang-Mills's *annotation* (discussed §§X.D.1.f-g) *enables the user to reduce lost time, thereby speeding an Internet search process* because *the annotation* indicates which search-term elements are present and missing from each search result thereby allowing a user to ascertain that information without having to lengthen the process by clicking on each website. Bederson-Decl., ¶¶330-331 (citing corroborating EX1030, 18:26-48; Bates, [0008]-[0009]); Mills, 5:25-26 (annotation allows user to “not select such a group [of results] where other groups appear to be more relevant”).

9. Claim 14

As discussed above (§VI.D.9), claim 14's system largely mirrors claim 1's method, with the method steps implemented by various *modules*, which POSAs understood to be hardware and/or software. Wang says its “search-engine server” comprises server hardware “to execute the software described” as implementing Wang's system/method. Wang, [0032]. For example, Wang's FIG. 3B illustrates a “front end 308” that “represents the software components that interact with the client computing device” (Wang, [0046]) and comprises a “parser 312, which is software that splits the search-engine query A into individual keywords” (Wang, [0047]). Mills's FIG. 4 similarly discloses a server, which includes “memory 306” that comprises “several components and/or applications that are executable” by a

processor to perform Mills’s annotation system/method. Mills, 9:22-43. Thus, Wang and Mills teach (or at least suggest) and render obvious implementing Wang-Mills’s system components / method steps as *modules*. Bederson-Decl., ¶¶332-334 (citing EX1061, [0073]).

Wang-Mills meets the following limitations of claim 14 for the reasons discussed in the corresponding sections above. Bederson-Decl., ¶335.

Limitation	Addressed in Section:
[14PRE]	§X.D.1.a ([1PRE])
[14A]	§X.D.1.b ([1A]; where <i>a module</i> implements the <i>receiving</i> , as discussed above).
[14B]	§X.D.1.c ([1B])
[14C]	§X.D.1.d ([1C])
[14D]	§X.D.1.e ([1D])
[14E]	§X.D.1.f ([1E]; where <i>a module</i> performs the <i>determining</i> , as discussed above).
[14F]	§X.D.1.g ([1F])
[14G]	§X.D.1.h ([1G]; where <i>a module</i> performs the <i>annotating</i> , as discussed above).

10. Claims 15-17, 20-21, 25-26

Wang-Mills meets the limitations added by the claims below for the reasons discussed in the corresponding sections above, where the system is implemented using the *modules* discussed *supra* §X.D.9. Bederson-Decl., ¶336.

Claim	Addressed in Section:
15	§X.D.2 ([claim 2])
16	§X.D.3 ([claim 3])
17	§X.D.4 ([claim 4])
20	§X.D.5 ([claim 7])
21	§X.D.6 ([claim 8])
25	§X.D.7 ([claim 12])
26	§X.D.8 ([claim 13])

XI. GROUND 2B: GROUND 2A’S WANG-MILLS COMBINATION IN VIEW OF NAICK RENDERS OBVIOUS CLAIMS 5-6 AND 18-19

A. The Wang-Mills-Naick Combination

As discussed above (Ground 1B, §VII.A), Naick’s search technique considers whether search terms are found on a webpage or its descendant webpage(s) because doing so can better ensure that the search engine identifies “possible relevant information.” Naick, [0004]-[0005]; Bederson-Decl., ¶¶337-338. Naick is thus

directed to the same basic goal as Wang and Mills—providing users with relevant search results that conventional search engines may miss. Bederson-Decl., ¶338.

POSAs had the same reasons to augment Wang-Mills based on Naick in the same ways discussed above in Ground 1B that POSAs had reason to augment Bates-Bhagat and Bates-alone based on Naick. Bederson-Decl., ¶¶339-340.

POSAs would have reasonably expected success because Naick’s “[s]earch logic may be substantially similar to that of conventional search systems” (Naick, [0026]) and only requires a “search engine” with “conventional components” (Naick, [0027]-[0028]). Bederson-Decl., ¶341.

B. Mapping to Challenged Claims

1. Claims 5, 18

Claims 5 and 18 depend, respectively, from claims 1 and 14. Ground 2B’s combinations build on Ground 2A’s Wang-Mills combinations, and meet those independent claims for the same reasons Ground 2A’s combinations do. *Supra* Ground 2A; Bederson-Decl., ¶342.

As discussed above (§XI.A), Wang-Mills-Naick includes the *annotations* and modules used in Wang-Mills. *Supra* Ground 2A, limitations [1E]-[1F], [14A], [14E]-[14G]. As discussed above for claim 7 (§X.D.5), Wang-Mills *determines not to generate the annotation* that meets [1E]-[1F] (§§X.D.1.f-g) and [14E]-[14F] (§X.D.9) *if all search term elements are present in the referenced webpage*. In

Ground 2B, based on Naick, *all search terms are considered present* (and *the annotation* that meets claim 7, which identifies a missing search term, is **not generated**) *if each search term is present in either the referenced webpage or a descendent webpage linked one level therefrom.* Naick, [0004]-[0006], [0022]-[0023]. Bederson-Decl., ¶343.

2. Claims 6, 19

Claims 6 and 19, which depend from claims 5 and 18, respectively, add the same limitation that claim 8 adds to claim 7. *Supra* Ground 2A. Ground 2B’s combinations maintain the same annotations discussed for Ground 2A, and thus meet claims 6 and 19 for the same reasons discussed in Ground 2A for claim 8. Bederson-Decl., ¶¶334-345.

XII. GROUND 2C: GROUND 2A’S WANG-MILLS COMBINATION IN VIEW OF BRINSON RENDERS OBVIOUS CLAIMS 9 AND 22

A. The Wang-Mills-Brinson Combination

As discussed in Ground 2A (§X.C), Wang-Mills uses Wang’s relaxed search, which identifies search results containing a subset, but potentially not all, of the user’s search terms. But Wang also says “certain keywords in the search-engine query may be designated not to be relaxed, meaning all retrieved documents **must include** the non-relaxed word.” Wang, [0045]. However, Wang does not say how the user can identify a mandatory term, *i.e.*, a term that cannot be absent from a search result. Bederson-Decl., ¶¶346-347.

As discussed in Ground 1C, Brinson discloses a user-friendly GUI that allows a user to identify a search term as a “Require[d] Term,” which means search “results must include this term.” Brinson, [0045], [0070]-[0071], [0075]. Bederson-Decl., ¶348.

Thus, in view of Brinson, POSAs had reason to augment Wang-Mills (Ground 2A) to include user-selectable GUI elements (*e.g.*, clickable search-term text) for “designat[ing]” that a search term “must [be] include[d]” in the search results. Wang, [0045]. Doing so would have also been applying aspects of Brinson’s known GUI for beneficially making a search term mandatory to known search engines ready for that improvement to yield the predictable result of Wang’s search engine providing an interface that lets users make a search term mandatory (as Wang says to do). *KSR*, 550 U.S. at 417; Bederson-Decl., ¶349 (citing EX1068, EX1047, EX1050).

In Wang-Mills-Brinson, the search engine is augmented to include a user-selectable GUI element that allows a user to select a search term and make it a “Require[d] Term” that must be included in each search result. Bederson-Decl., ¶350. As discussed above (§VIII.B; citing corroboration), a known, beneficial way to implement what Brinson describes was to filter already-identified results, without executing another search. Bederson-Decl., ¶350.

POSAs would have reasonably expected success because, as discussed above, Wang expressly supports the ability to make a search term mandatory, and it would have required only ordinary programming skill to adapt weight-selecting aspects of Brinson’s GUI (which used conventional webpage elements, like clickable text and buttons) to be implemented in Wang-Mills. Bederson-Decl., ¶351.

B. Mapping to Challenged Claims

1. Claims 9, 22

Claims 9 and 22 depend from claims 1 and 14. Ground 2C’s Wang-Mills-Brinson combination builds on Ground 2A’s Wang-Mills combination and meets claims 1 and 14 for the same reasons that Wang-Mills does. *Supra* Ground 2A; Bederson-Decl., ¶352.

Claims 9 and 22 add the *selectable-filtering-function* limitation to claims 1 and 14. As discussed above (§XII.A), POSAs had motivation to augment Wang-Mills to include, based on Brinson, user-selectable GUI elements (*e.g.*, clickable search-term text) that allow users to designate a search term as mandatory without executing a new search. Bederson-Decl., ¶353. Once augmented, Wang-Mills-Brinson meets the *selectable-filtering-function* limitation because selecting the GUI element to designate a *missing* search term as “required” *causes* the search-result webpages *missing* that search term *to be removed from being displayed*. *Id.*

Brinson’s system is implemented by “an application program run by the server” (Brinson, [0028]), which teaches or suggests using a *module*. Bederson-Decl., ¶354 (citing EX1061, [0073]); *see also* Wang, FIG. 3B, [0032], [0046]-[0047]; Mills, FIG. 4, 9:22-43. Thus, Wang-Mills-Brinson would have implemented the above-discussed filtering function using *a filtering module*, as recited in claim 22. Bederson-Decl., ¶354.

If claims 9 and 22 require the search results to be updated in response to a single click by the user, that would have been obvious as a simple, beneficial design option for user convenience of, *e.g.*, not requiring the user to select multiple filter buttons before updating the search results. Bederson-Decl., ¶355 (citing corroboration).

XIII. GROUND 2D: GROUND 2A’S WANG-MILLS COMBINATION IN VIEW OF MEHTA RENDERS OBVIOUS CLAIMS 10-11 AND 23-24

A. The Wang-Mills-Mehta Combination

As discussed in Ground 1D, Mehta teaches displaying “relevant advertisement[s]” as “[s]ponsored links” alongside Internet search results. Mehta, [0005]. *See also* EX1001, 2:51-55. For the same reasons discussed in Ground 1D (*e.g.*, generating revenue), POSAs had reasons to display sponsored links based on Mehta in Ground 2A’s Wang-Mills combination. Bederson-Decl., ¶¶356-357 (citing EX1015, [0004]; EX1016, [0006]).

Based on Mehta, the search-engine interface in Wang-Mills-Mehta displays “[s]ponsored links” that are “relevant to [the user’s] search criteria.” Mehta, [0005]-[0006]; Bederson-Decl., ¶358. POSAs would have reasonably expected success because, as discussed above (§IX.B, Ground 1D), displaying such sponsored links was conventional. Bederson-Decl., ¶359 (citing corroboration).

B. Mapping to Challenged Claims

1. Claims 10, 23

Claims 10 and 23 depend from claims 1 and 14. Ground 2D’s Wang-Mills-Mehta builds on Ground 2A’s Wang-Mills combination and meets claims 1 and 14 for the reasons that Wang-Mills does. *Supra* Ground 2A; Bederson-Decl., ¶360.

Claims 10 and 23 add the *sponsored-links* limitation to claims 1 and 14. As discussed above, Mehta provides POSAs with motivation to augment Wang-Mills to display “[s]ponsored links” related to the user’s search terms. Mehta, [0005]-[0006]. Bederson-Decl., ¶361. Once augmented, Wang-Mills-Mehta meets the *sponsored-links* limitation. Bederson-Decl., ¶361.

Based on Mehta, Wang-Mills-Mehta would have included “a rendering rules *module* 340 used” “to determine where and how the advertisement[links] are to be rendered [*displayed*] on the search results webpage” (Mehta, [0030])—*i.e.*, an *advertising module*, as recited in claim 23. Bederson-Decl., ¶¶362-363.

2. Claims 11, 24

Claims 11 and 24 depend from claims 10 and 23, respectively, and Wang-Mills-Mehta meets the limitation added by claims 11 and 24 for the reasons discussed above that Ground 1D combinations meet that limitation based on Mehta. *Supra* Ground 1D (§IX.C.2); Bederson-Decl., ¶¶364-365.

XIV. CONCLUSION

The Board should institute review and cancel claims 1-26.

Dated: 2026-03-13

Respectfully submitted,
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XV. CLAIM LISTING APPENDIX

Claim 1
[1PRE] A method for providing an annotation for an Internet search result for display to a user of an Internet search engine to warn the user when the Internet search result's referenced webpage is missing one or more search term elements supplied by the user, the method comprising:
[1A] receiving one or more search term elements supplied by a user of an Internet search engine from the user's computing device,
[1B] wherein the Internet search engine generates, based at least in part on the supplied search term elements, at least one Internet search result referencing a webpage, for display on a search results webpage on the user's computing device,
[1C] wherein the Internet search result is displayed on the search results webpage as a search result grouping, and
[1D] wherein the search result grouping is comprised of at least one of: a title for the referenced webpage, an Internet link for the referenced webpage, an excerpt of the referenced webpage, or a URL for the referenced webpage;
[1E] determining whether to generate an annotation for the Internet search result for display on the search results webpage, wherein it is determined to generate the annotation if at least one search term element is missing in the Internet search result's referenced webpage,
[1F] wherein the annotation is comprised of a text representing the at least one search term element that is missing in the Internet search result's referenced webpage; and
[1G] if it is determined to generate the annotation for the Internet search result, causing the annotation to be displayed adjacent to or within the Internet search result's search result grouping on the search results webpage.
Claim 2
The method of claim 1, wherein the annotation is further comprised of a text representing at least one search term element that is present in the referenced webpage.
Claim 3
The method of claim 1, wherein the method of claim 1 is performed by the Internet search engine.

Claim 4
The method of claim 1, wherein the method of claim 1 is performed on the user's computing device by one or more of: a plug-in or a software program.
Claim 5
The method of claim 1, wherein it is determined not to generate the annotation for the Internet search result if each search term element that is missing in the referenced webpage is present in one or more descendant webpages of the referenced webpage, wherein a descendant webpage of the referenced webpage is a webpage linked directly one level from the referenced webpage.
Claim 6
The method of claim 5, wherein a search term element is considered present in a webpage if the webpage contains at least one of: the search term element, a synonym of the search term element, or a misspelled version of the search term element.
Claim 7
The method of claim 1, wherein it is determined not to generate the annotation for the Internet search result if all of the supplied search term elements are present in the Internet search result's referenced webpage.
Claim 8
The method of claim 7, wherein a search term element is considered present in a webpage if the webpage contains at least one of: the search term element, a synonym of the search term element, or a misspelled version of the search term element.
Claim 9
The method of claim 1, further comprising providing a selectable filtering function that, when selected by the user, causes the Internet search result whose referenced webpage is missing the at least one search term element to be removed from being displayed on the search results webpage.
Claim 10
The method of claim 1, further comprising displaying one or more sponsored links on the search results webpage with the Internet search result for which the annotation is generated, where the one or more sponsored links are related to one or more of the supplied search term elements.

Claim 11
The method of claim 10, wherein one or more of the sponsored links is related to the at least one search term element missing in the Internet search result's referenced webpage.
Claim 12
The method of claim 1, wherein the text representing the at least one search term element is shown in one or more of the following formats: (i) a font representing the text has been altered; (ii) the text is shown with one or more lines merged with the text; (iii) the text is shown with one or more lines superimposed thereupon; (iv) the text is shown within a shaded area; or (v) the text is shown with a reversed format.
Claim 13
The method of claim 1, wherein the annotation enables the user to reduce lost time, thereby speeding an Internet search process.
Claim 14
[14PRE] A system for providing an annotation for an Internet search result for display to a user of an Internet search engine to warn the user when the Internet search result's referenced webpage is missing one or more search term elements supplied by the user, the system comprising:
[14A] a receiving module for receiving one or more search term elements supplied by a user of an Internet search engine from the user's computing device,
[14B] wherein the Internet search engine generates, based at least in part on the supplied search term elements, at least one Internet search result referencing a webpage for display on a search results webpage on the user's computing device,
[14C] wherein the Internet search result is displayed on the search results webpage as a search result grouping, and
[14D] wherein the search result grouping is comprised of at least one of: a title for the referenced webpage, an Internet link for the referenced webpage, an excerpt of the referenced webpage, or a URL for the referenced webpage;
[14E] a determining module for determining whether to generate an annotation for the Internet search result for display on the search results webpage, wherein the determining module determines to generate the annotation if at least one search term element is missing in the Internet search result's referenced webpage,

[14F] wherein the annotation is comprised of a text representing the at least one search term element that is missing in the Internet search result's referenced webpage; and
[14G] an annotating module for causing the annotation to be displayed adjacent to or within the Internet search result's search result grouping on the search results webpage if the determining module determines to generate the annotation for the Internet search result.
Claim 15
The system of claim 14, wherein the annotation is further comprised of a text representing at least one search term element that is present in the referenced webpage.
Claim 16
The system of claim 14, wherein the receiving module, the determining module, and the annotating module are part of the Internet search engine.
Claim 17
The system of claim 14, wherein the receiving module, the determining module, and the annotating module reside on the user's computing device and are part of one or more of: a plug-in or a software program.
Claim 18
The system of claim 14, wherein the determining module determines not to generate the annotation for the Internet search result if each search term element that is missing in the referenced webpage is present in one or more descendant webpages of the referenced webpage, wherein a descendant webpage of the referenced webpage is a webpage linked directly one level from the referenced webpage.
Claim 19
The system of claim 18, wherein a search term element is considered present in a webpage if the webpage contains at least one of: the search term element, a synonym of the search term element, or a misspelled version of the search term element.
Claim 20
The system of claim 14, wherein the determining module determines not to generate the annotation for the Internet search result if all of the supplied search term elements are present in the Internet search result's referenced webpage.

Claim 21
The system of claim 20, wherein a search term element is considered present in a webpage if the webpage contains at least one of: the search term element, a synonym of the search term element, or a misspelled version of the search term element.
Claim 22
The system of claim 14, wherein the system is further comprised of a filtering module for providing a selectable filtering function that, when selected by the user, causes the Internet search result whose referenced webpage is missing the at least one search term element to be removed from being displayed on the search results webpage.
Claim 23
The system of claim 14, wherein the system is further comprised of an advertising module that causes one or more sponsored links to be displayed on the search results webpage with the Internet search result for which the annotation is generated, where the one or more sponsored links are related to one or more of the supplied search term elements.
Claim 24
The system of claim 23, wherein one or more of the sponsored links is related to the at least one search term element missing in the Internet search result's referenced webpage.
Claim 25
The system of claim 14, wherein the text representing the at least one search term element is shown in at least one of the following formats: (i) a font representing the text has been altered; (ii) the text is shown with one or more lines merged with the text; (iii) the text is shown with one or more lines superimposed thereupon; (iv) the text is shown within a shaded area; or (v) the text is shown with a reversed format.
Claim 26
The system of claim 14, wherein the annotation enables the user to reduce lost time, thereby speeding an Internet search process.

CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24, the undersigned certifies that the foregoing Petition for *Inter Partes* Review contains 13,932 words excluding a table of contents, a table of authorities, Mandatory Notices under § 42.8, a certificate of service or word count, or appendix of exhibits or claim listing. Petitioner has relied on the word count feature of the word processing system used to create this paper in making this certification.

Date: March 13, 2026

/Dara Del Rosario/
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CERTIFICATE OF SERVICE UNDER 37 C.F.R. § 42.6 (E)(4)

I certify that on March 13, 2026, a copy of the foregoing document, including any exhibits or appendices filed therewith, is being served via Overnight FedEx at the following correspondence address of record for the patent:

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